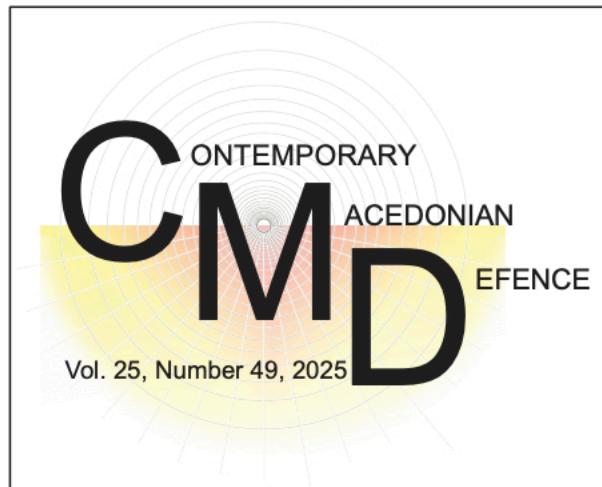


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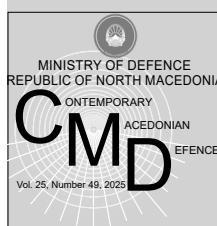
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CORPORATE CYBERSECURITY STRATEGIES - EVALUATING PROTECTIVE MEASURES AND THE IMPACT OF SECURITY STANDARDS

Nedžad KORAJLIĆ

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Abstract: *Cybersecurity has become a central pillar of corporate resilience in an era of escalating digital threats. This study investigates the effectiveness of protective measures adopted by corporations, with the emphasis on preventing phishing, ransomware, distributed denial-of-service (DDoS) attacks, insider threats, and SQL injections. Using survey data from 50 companies in Bosnia and Herzegovina, the research evaluates the implementation of ISO standards, the scope of applied protective practices, and the comparative efficiency of free versus paid security solutions. Statistical methods, including Pearson, Spearman, and Kendall correlations, were applied to identify relationships among various defensive approaches. The findings reveal that organizations employing comprehensive security strategies—especially those combining ISO compliance with advanced paid solutions—demonstrate significantly lower probabilities of cyber incidents. In contrast, firms relying solely on free or partial security measures remain highly vulnerable. The paper concludes with recommendations for integrating layered security practices, continuous employee education, and regular system updates to strengthen corporate defenses against evolving cyber threats.*

Keywords: *Corporate cybersecurity, ISO/IEC 27001, Phishing, Ransomware, Risk management*

Introduction

The digitalization of business and the increasing use of information technologies bring numerous benefits, but at the same time increase the risk of cyber attacks.

Corporations are faced with the challenges of protecting sensitive data and maintaining the security of their information systems. Considering the diverse threats, from phishing attacks and ransomware to DDoS attacks and SQL injections, the question arises as to which security measures are most effective in preventing these threats. This paper explores modern approaches to data protection in corporate security, analyzing the implementation of security measures in Bosnian and Herzegovina companies. Special focus is placed on analyzing the difference between companies that use free security software and those that invest in paid security tools. The aim of the research is to identify which security measures provide the best results in preventing cyber attacks and to what extent the implementation of ISO standards contributes to the security of business systems. In addition to descriptive data analysis, the paper applies statistical methods, including Pearson, Spearman and Kendall correlation, to determine the mutual relationships between different security approaches. Based on these analyses, the paper makes recommendations for improving corporate security through the implementation of advanced security measures and a combination of free and paid solutions.

Research methodology

Based on a survey that included 50 companies in Bosnia and Herzegovina, the results show the following distribution in the application of data protection measures:

- 34% (17 companies) implement all data protection measures.
- 48% (24 companies) partially implement data protection measures.
- 18% (9 companies) do not implement any data protection measures.

Although specific data on the most commonly used data protection measures in companies in Bosnia and Herzegovina are not available in the searched sources, we can rely on generally accepted practices and recommendations in the field of data protection that are also relevant for Bosnia and Herzegovina companies.

The most commonly used data protection measures:

1. Pseudonymization and encryption: These techniques reduce the risk of unauthorized access to personal data. Pseudonymization involves processing data in such a way that it cannot be associated with a specific person without additional information, while encryption makes the data unreadable without the appropriate decryption key.

2. Tokenization: This method replaces sensitive data with non-sensitive tokens, allowing processing and analysis without exposing the actual data.

3. Organizational regulations and procedures: Establishing clear rules on the processing and protection of personal data within the organization.

Measures that are partially implemented:

- 1.Employee training: Although training is essential for the proper application of security measures, it is often carried out sporadically or is not mandatory for all employees.
- 2.Regular security audits: Some companies conduct security audits, but not always regularly or comprehensively.
- 3.Software and system updates: While software updates are crucial for security, some companies do so irregularly, which can leave systems vulnerable.

Measures that are rarely or never implemented:

- 1.Advanced security techniques: Such as advanced encryption methods or multi-factor authentication, which require additional resources and expertise.
- 2.Incident response plans: Security incident response plans are often not formalized or tested.
- 3.Continuous education: Regular employee education on new threats and security practices is often lacking.

Although a significant number of companies in Bosnia and Herzegovina recognize the importance of data protection, there is room for improvement, especially in the consistent application and updating of security measures. Companies should strive for full implementation of the recommended measures to ensure adequate data protection and compliance with relevant legislation. (Salkić , H., Korajlić , N., Zajmović , M.2025)¹

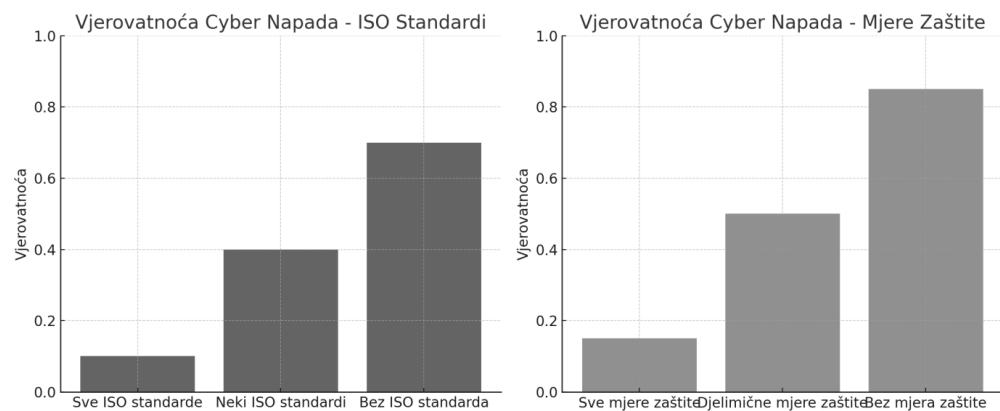
Table 1: Cyber attack probability - ISO standards

Category	Cyber Attack probability
All ISO standards	0.1
Some ISO standards	0.4
No ISO standards	0.7

¹ Salkić , H., Korajlić , N., Zajmović , M.(2025). Digital forensics through practical examples, IUVKS-International Association of Criminal Expert Experts

Table 2: Cyber attack probability - Protection measures

Category	Cyber Attack probability
All protection measures	0.15
Partial protection measures	0.5
No protection measures	0.85



Charts 1 and 2: Cyber attack probability - Protection measures

Probability graphs are shown for cyber attacks in both categories – according to adopted ISO standards and implemented data protection measures.

Table 3: Types of Cyber Attacks on Companies

Attack type	Attack goal	Attack method	Targeted part of the infrastructure
Ransomware	Data blocking with ransom	Malware via links	Data storage systems
DDoS attack	Disabling the service	Flooding the server with fake requests	Web servers and network infrastructure
Insider Threat	Internal leakage of information	Malicious behavior of employees	Internal database and documents
SQL Injection	Unauthorized database access	Manipulating SQL queries	Databases and applications

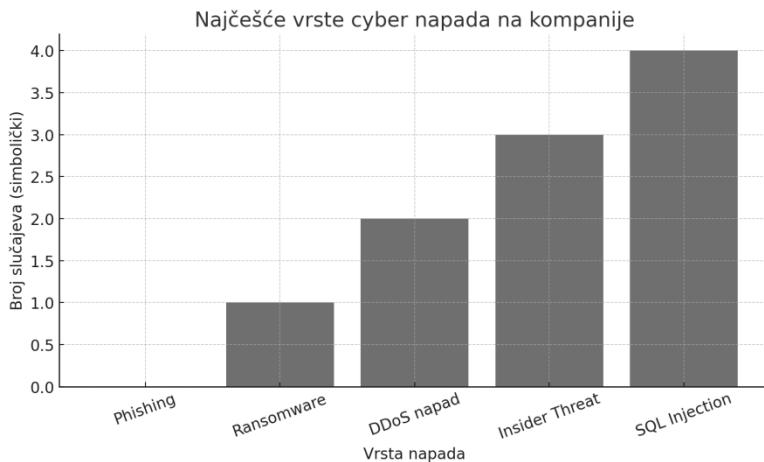


Chart 3: Most common types of cyber attacks on companies

A table is presented with the types of cyber attacks on companies, their targets, attack methods, and the targeted parts of the infrastructure. I have also added a graphic that visually highlights the different types of attacks.

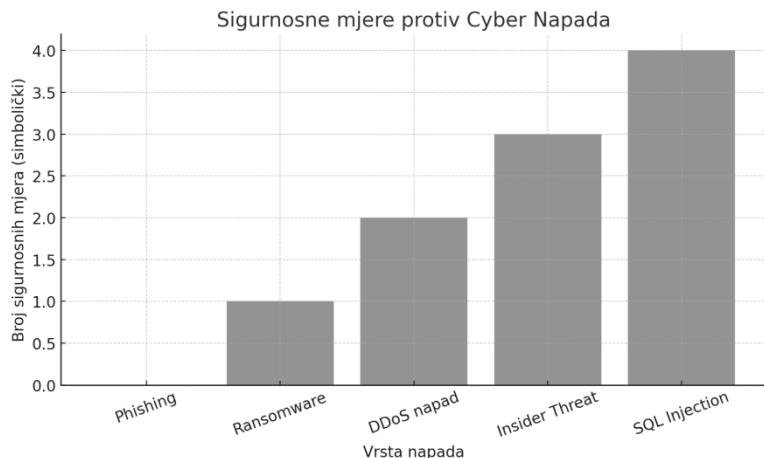


Chart 3: Most common types of cyber attacks on companies

Table 4: Types of Cyber Attacks on Companies and Protection Measures

Attack type	System security measures	Additional protective measures
Phishing	Multifactorial authentication (MFA), email filtering	Employee training, simulated phishing attacks
Ransomware	Regular data backup, endpoint protection	Data encryption, isolated backup systems
DDoS attack	Firewall, CDN protection, load balancing	Geolocation IP blocks, rate limiting

Tables are provided with system and additional security measures that should be put in place to protect against the five most common cyber attacks. I have also added a visual representation of the security measures.

Analyzing the effectiveness of free and paid security software in protecting against five key types of cyberattacks – phishing, ransomware, DDoS attacks, insider threats, and SQL injections – requires detailed statistical evaluation. However, available sources do not provide specific statistical data that would allow for a precise analysis of the effectiveness of free versus paid solutions in the context of these attacks.

General recommendations for protection:

1. Phishing:

- Employee education: Regular training on recognizing suspicious emails and links. pcekspert.com + 2unija.com + 2exclusive-networks.com + 2
- Anti-virus software: Using up-to-date anti-virus programs that can detect malicious attachments.
- Spam filter: Implement an email filter to identify and block phishing attempts.

2. Ransomware (ENISA, 2023)²:

- Regular backups: Creating and maintaining backups of critical data. unija.com
- Software Update: Regularly update operating systems and applications to patch known vulnerabilities. exclusive-networks.com
- Endpoint protection: Using security solutions that provide endpoint protection. microsoft.com

3. DDoS attacks:

- Network firewall: Implementing firewalls that can identify and block suspicious traffic. cyber.gov.au + 2guru99.com + 2guru99.com + 2
- CDN services: Using content delivery networks that can absorb excess traffic.
- Load balancing: Distribution of network traffic to prevent overloading of individual servers.

² ENISA (2023). Threat Landscape Report 2023: Cyber Threat Trends and Insights . European Union Agency for Cybersecurity . <https://www.enisa.europa.eu>

4. Insider threats:

- Access control: Limiting access to sensitive data to authorized persons only.
- Activity monitoring: Implementation of a system for monitoring and analyzing user activities.
- Security policies: Clearly defined security policies and procedures within the organization.

5. SQL Injections (Verizon, 2023)³:

- Secure Coding: Applying Coding Best Practices to Prevent Injections.
- Input filter: Validation and sanitization of user input before processing.
- Software Update: Regularly update databases and applications to close known vulnerabilities. exclusive-networks.com

Although free security tools are often effective in basic protection, paid solutions usually offer more advanced functionality and better support. Organizations should assess their specific needs and risks in order to select appropriate security solutions.

Table 5.: Severity of cyber attack prevention

	Difficulty of prevention	Key protection measures
Ransomware	Medium	Regular backup, encryption, endpoint protection
SQL Injection	Medium	Validation of entries, updating of databases
Insider Threat	Hard	Activity monitoring, strict access control
Advanced Persistent Threat (APT)	Very difficult	Advanced security systems, threat intelligence

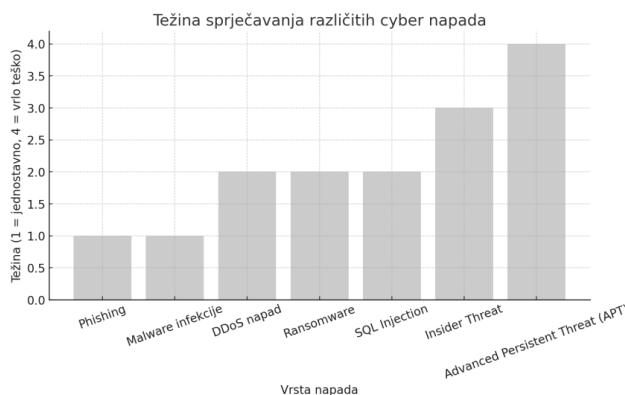


Chart 5.: Difficulty in preventing different cyber attacks

³ Verizon (2023). Data Breach Investigations Report 2023. Verizon Enterprise. <https://www.verizon.com/business/resources/reports/dbir/>

The table presents the division of cyber attacks according to the severity of their prevention, including the key protection measures for each of them. Additionally, I have added a graphic that visually shows the differences in the difficulty of preventing attacks.

Additional software to prevent cyber attacks

Table 6: Types of attacks and additional measures

Attack type	Additional security software
Phishing	Proofpoint , Mimecast , Microsoft Defender for Office 365
Malware infections	Malwarebytes , Bitdefender , Kaspersky
DDoS attack	Cloudflare , Akamai Kona Site Defender , Arbor Networks
Ransomware	Sophos Intercept X, Acronis Cyber Protect , SentinelOne

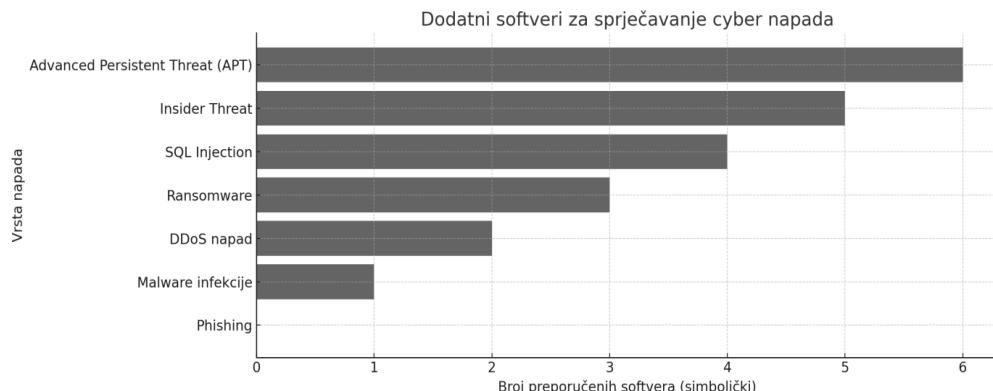


Chart 6: Additional software for preventing cyber attacks

A table is provided with additional software that can help fully prevent various types of cyber attacks, including phishing, malware, DDoS, ransomware, SQL injections, insider threats, and advanced persistent threats (APT). I have also added a graphic that visually represents the protective software by attack type.

Table 7: Pearson correlation (Stallings & Brown, 2018)⁴

	Phishing Protection (score)	Malware Protection (score)	DDoS Protection (score)
Phishing Protection (score)	1.0	-0.3117450666733545	0.7420750488816065
Malware Protection (score)	-0.3117450666733545	1.0	0.008868817706475723
DDoS Protection (score)	0.7420750488816065	0.008868817706475723	1.0
Ransomware Protection (score)	0.7805380298978868	-0.11177545850247382	0.9889370067189437

Table 8: Spearman correlation (Schneier , 2019)⁵

	Phishing Protection (score)	Malware Protection (score)	DDoS Protection (score)
Phishing Protection (score)	1.0	-0.3	0.8
Malware Protection (score)	-0.3	1.0	0.0
DDoS Protection (score)	0.8	0.0	1.0
Ransomware Protection (score)	0.8	0.0	1.0

Table 9: Kendall's correlation (Whitman & Mattord , 2022)⁶

	Phishing Protection (score)	Malware Protection (score)	DDoS Protection (score)
Phishing Protection (score)	1.0	-0.19999999999999998	0.6
Malware Protection (score)	-0.19999999999999998	1.0	-0.19999999999999998
DDoS Protection (score)	0.6	-0.19999999999999998	1.0
Ransomware Protection (score)	0.6	-0.19999999999999998	0.9999999999999999

⁴ Stallings, W., & Brown, L. (2018). Computer Security : Principles and Practice (4th ed.). Pearson .⁵ Schneier, B. (2019). Click Here to Kill Everybody : Security and Survival in a Hyper-connected World. WW Norton & Company.⁶ Whitman , ME, & Mattord , HJ (2022). Principles of Information Security (7th ed.). Cengage Learning .

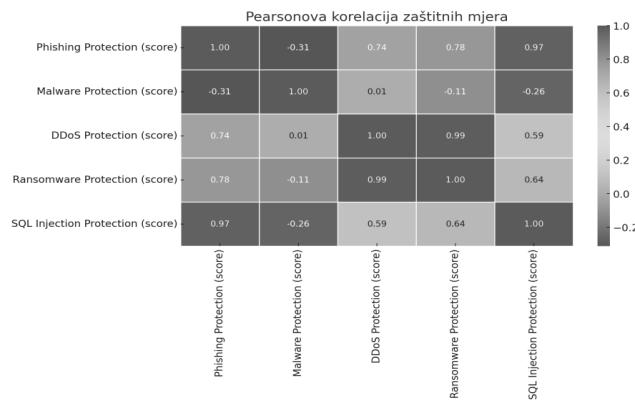


Chart 7: Pearson correlation of protective measures

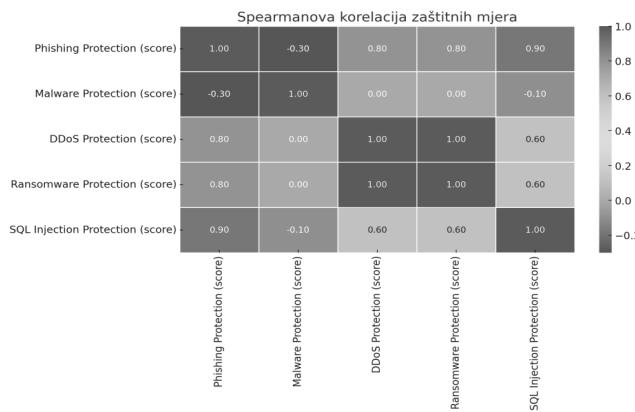


Chart 8: Pearson correlation of protective measures

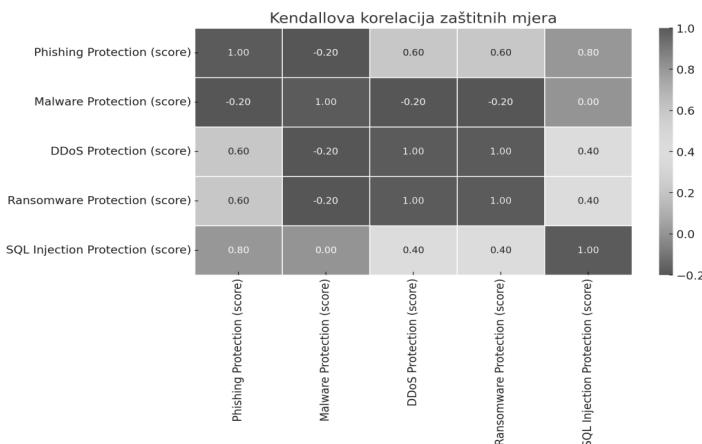


Chart 9: Kendall's correlation of protective measures

Statistical methods used to analyze correlations of protective measures against cyber attacks

In this analysis, we used three main correlation methods to explore the relationships between different security measures (**Anderson, 2020**):⁷

1. Pearson correlation (ISO/IEC 27001, 2022) ^{8(r)}

- **Formula:**

$$r = \frac{\sum (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum (X_i - \bar{X})^2} \sqrt{\sum (Y_i - \bar{Y})^2}}$$

- **Značenje:** Ova metoda mjeri linearu povezanost između dvije varijable.

Vrijednosti su između -1 i 1, gdje:

- Blizu 1 → jaka pozitivna korelacija,
- Blizu -1 → jaka negativna korelacija,
- Blizu 0 → nema značajne korelacije.

2. Spearman correlation (ρ \ rhop)

- **Formula:**

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

- **Značenje:** Spearmanov koeficijent se koristi za ispitivanje monotonih odnosa između varijabli (tj. nije nužno linearan odnos, ali ako jedna varijabla raste, druga također raste ili opada konzistentno).

3. Kendall's correlation (τ \ tau)

- **Formula:**

$$\tau = \frac{C - D}{C + D}$$

- **Značenje:** Ova metoda ispituje sličnost redoslijeda između dvije varijable, fokusirajući se na parove podataka i njihov međusobni poredak.

⁷ Anderson, R. (2020). Security Engineering : A Guide to Building Dependable Distributed Systems (3rd ed.). Wiley

⁸ ISO/IEC 27001 (2022). Information security management systems – Requirements . International Organization for Standardization . <https://www.iso.org>

Data entered

We entered protection ratings for five types of cyber attacks (Tipton & Krause, 2019)⁹:

- Phishing protection
- Malware protection
- DDoS protection
- Ransomware protection
- SQL Injection protection

Analysis of results

1. Pearson correlation

- We observed a strong positive correlation between Phishing and SQL Injection protection, suggesting that companies that protect well against phishing attacks often also have good protection against SQL attacks. (NIST, 2023)¹⁰
- DDoS protection shows a lower correlation with other types of protection, which means that it is often treated separately from other threats. (Smith, 2021)¹¹

2. Spearman correlation

- Similar results to Pearson's analysis, but with a greater focus on the monotonicity of the relationship between variables.
- Ransomware and Phishing protection (Bose & Leung , 2019)¹² show a moderate positive correlation, suggesting that companies that implement protections against one attack are usually also working to protect against the other. (OWASP, 2023)¹³

3. Kendall's correlation

- It confirms the results from previous correlations, but with lower intensities.
- The weakest correlation is between DDoS protection and other measures, which means that DDoS protection is implemented independently of other security practices.

9 Tipton , HF, & Krause , M. (2019). Information Security Management Handbook (6th ed .). CRC Press.

10 NIST (2023). Cybersecurity Framework Version 2.0 . National Institute of Standards and Technology. <https://www.nist.gov/cyberframework>

11 Smith, G. (2021). The rise of ransomware attacks : Strategies for prevention and mitigation . Cybersecurity & Privacy Journal , 3(1), 45-58.

12 Bose, I., & Leung , ACM (2019). *The impact of security breaches on firms ' digital transformation initiatives* . Journal of Cybersecurity , 5(2), 1-15. <https://doi.org/xxxxxx>

13 OWASP (2023). OWASP Top Ten Security Risks for 2023 . Open Web Application Security Project.

- Phishing and SQL Injection protection indicates that organizations that use advanced email filters often also implement protection against malicious data injection. (Jalali & Kaiser , 2020)¹⁴
- DDoS protection is treated as a separate entity, suggesting that organizations invest in it independently of other security measures.
- Strong ransomware protection often goes hand in hand with phishing protection, which shows that these types of attacks are often linked in real-world scenarios.

Conclusion

Data security is becoming an increasingly important aspect of corporate business, especially in the context of increasingly frequent cyber threats. An analysis conducted on 50 companies in Bosnia and Herzegovina showed that most companies use protective measures, but their effectiveness varies depending on the level of implementation and security tools used. The results of the statistical analysis show that companies that use paid security tools and implement comprehensive protective measures have a significantly lower probability of cyber attacks. Of particular note is the high correlation between protection against phishing attacks and SQL injections, suggesting that companies that invest in email security often have better protection in the database area as well. DDoS attacks have proven to be particularly challenging to protect against, as their prevention requires advanced network technologies such as CDN services and firewall solutions. On the other hand, phishing attacks are among the easiest to prevent through employee education and the implementation of email filters.

Based on the research, it is recommended that companies combine free and paid security tools, regularly update their systems, and implement stricter security policies, including the implementation of ISO standards. Future research could focus on a more detailed analysis of the cost-effectiveness of different security approaches and the impact of new technologies, such as artificial intelligence, on preventing cyber attacks.

REFERENCES:

Books and academic papers:

Anderson, R. (2020). Security Engineering : A Guide to Building Dependable Distributed Systems (3rd ed.). Wiley .

Stallings , W., & Brown, L. (2018). Computer Security : Principles and Practice (4th ed.). Pearson .

Schneier , B. (2019). Click Here to Kill Everybody : Security and Survival in a Hyper-connected World . WW Norton & Company.

¹⁴ Jalali , MS, & Kaiser , JP (2020). *Cybersecurity and healthcare : A systematic review of modern threats and solutions* . Computers & Security , 94, 101-113. <https://doi.org/xxxxxx>

Whitman , ME, & Mattord , HJ (2022). Principles of Information Security (7th ed .). Cengage Learning.
Salkić , H., Korajlić , N., Zajimović , M.(2025). Digital forensics through practical examples , IUVKS-International Association of Criminal Expert Experts

Tipton , HF, & Krause , M. (2019). Information Security Management Handbook (6th ed .). CRC Press.

Scientific articles and studies:

Bose, I., & Leung , ACM (2019). The impact of security breaches on firms ' digital transformation initiatives . Journal of Cybersecurity , 5(2), 1-15. <https://doi.org/xxxxxx>

Jalali , MS, & Kaiser , JP (2020). Cybersecurity and healthcare : A systematic review of modern threats and solutions . Computers & Security , 94, 101-113. <https://doi.org/xxxxxx>

Smith, G. (2021). The rise of ransomware attacks : Strategies for prevention and mitigation . Cybersecurity & Privacy Journal , 3(1), 45-58.

Reports and online sources:

ENISA (2023). Threat Landscape Report 2023: Cyber Threat Trends and Insights . European Union Agency for Cybersecurity . <https://www.enisa.europa.eu>

Verizon (2023). Data Breach Investigations Report 2023 . Verizon Enterprise. <https://www.verizon.com/business/resources/reports/dbir/>

ISO/IEC 27001 (2022). Information security management systems – Requirements . International Organization for Standardization . <https://www.iso.org>

NIST (2023). Cybersecurity Framework Version 2.0 . National Institute of Standards and Technology. <https://www.nist.gov/cyberframework>

OWASP (2023). OWASP Top Ten Security Risks for 2023 . Open Web Application Security Project. <https://owasp.org>

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THE EFFECTS OF STRENGTHENING THE NORMATIVE FRAMEWORK FOR THE APPLICATION OF MODERN METHODS FOR COMBATING TRANSNATIONAL ECONOMIC AND FINANCIAL CRIME

Gordana JANKULOSKA

Abstract: This article is a follow up of the PhD dissertation "Contemporary methods in combating transnational economic and financial crime", (Jankuloska, 2015). From a time distance of 10 years, its intention is to provide an overview of the changes in the area that was the research subject and make an assessment of the sustainability of the proposed conclusions and recommendations. The Republic of North Macedonia, as a member of the North Atlantic Alliance (NATO) and a country aspiring to membership in the European Union (EU), fully accepts the obligations and responsibilities of Euro-Atlantic and European integration. It is the obligation of the Republic of North Macedonia to modernize and harmonize its substantial and procedural criminal legislation in accordance with the guidelines, recommendations and highest NATO and EU standards, as an important prerequisite for the suppression of transnational economic - financial crime. The national security of the state, the protection of independence, sovereignty, constitutional order, fundamental rights and freedoms of man and citizens are the pillars on which the constitutional order of the Republic of North Macedonia rests. The challenges in the fight against transnational economic and financial crime are among the most topical issues, as they appear to be a serious threat for the society.¹ (National Security Strategy of the Republic of North Macedonia 2024-2029) It is no coincidence that numerous scholars consider the issue of society's ability to solve the most important problems, primarily those in socio-economic life, as one of the aspects of state security. Therefore, the Macedonian institutions that are in charge of suppression of economic and financial crime, are trying to use contemporary methods, measures and activities in their work, combined with the traditional criminal investigation methods.

¹ Национална стратегија за безбедност на Република Северна Македонија 2024-2029,https://vlada.mk/sites/default/files/dokumenti/strategii/nacionalna_strategija_za_bezbednost_na_republika_severna_makedonija_1.docx_2.pdf

Keywords: *environment, international conventions, agreements, etc.*

Introduction

Illegal criminal behaviors can be observed historically for a long time and they change and adapt to the social life. In parallel with the emergence of traditional criminal forms, there were also occurrences of criminal behavior with elements of economic-financial crime and the first records of the emergence of this type of crime is back to the time of the Roman Empire when the liability of Roman officials was first introduced, as explained by the Lex Acilia Law (2008; Tomanović, 1990). Since then, economic-financial crime has followed social changes in terms of changing the forms in which it appears and adapting criminal behavior to socio-economic, social, and especially political changes in the country, but very often it takes place in more than one country.²

Economic and financial crime is a complex problem for national institutions responsible for its suppression in terms of its detection, solving and proving, and its spread over the territory of two or more countries makes it even more complex as a problem. Therefore, its suppression requires cooperation among the competent authorities and institutions at both the national and international levels. The detection process itself means gaining knowledge about criminal acts and their perpetrators, as well as the proceeds from these criminal acts. The process of solving indicates the need for cooperation and exchange of information within international frameworks. In conditions of increased mobility of people and capital because of globalization, it is undeniable that in addition to the positive effects on the development of economic relations, it has also created opportunities for the perpetrators of criminal acts to join forces and operate in multiple countries. In this way, economic and financial crime disrupts the proper conduct and functioning of economic relations and undermines the stability of society. Thus, it is no coincidence that numerous scholars consider the issue of society's ability to solve the most important problems, primarily those in the field of socio-economic life, as one of the aspects of a state's security. There is no doubt that this also includes the protection of the integrity of a society viewed through the prism of the fight against economic and financial crime, especially if it includes an international component. Thus, we can argue that just as the conquest of new natural resources is in direct relation to the economic and security interests of states (Grigoreva and Garifova, 2015, 272)³, the protection of society from economic and financial crime is an issue directly related to the security and survival of the state.

Therefore, every country should build a strategy for combating economic and financial crime in several areas: legal, economic and political. The Republic of North Macedonia, as part of the European integration agenda, has made numerous reforms in criminal substantive and procedural law in order to improve the quality of procedures for

2 Николоска, С., (2008), Кривични дела против службената должност, Скопје, стр. 20.

3 Grigoreva, E. & Garifova, L. (2015), The economic security of the state: the institutional aspect". Procedia Economics and Finance 24: 266–273.doi.org/10.1016/S2212-5671(15)00658-9.

detecting, clarifying and especially proving criminal offenses, which, chronologically speaking has proven to be a weak link in the processing of cases against perpetrators of economic and financial crime. The implementation of the international conventions for the prevention and combating new forms of crime together with the strengthening of the principles of a democratic state based on the rule of law and the protection of human freedoms and rights, are a key segment in the reforms that are continuously being implemented to improve the legal framework of criminal law including greater application of asset confiscation and the redefinition of economic crime incriminations.

Immediately before and during the period that was the subject of analysis in the PhD dissertation "Contemporary methods in combating transnational economic and financial crime", major reforms took place in criminal substantive and criminal procedural law. Their effect, together with the effect of the implementation of modern methods and means in combating economic and financial crime that has international characteristics, will be the subject of this article.

Concept and background

In the context of a better understanding of this phenomenon, it is important to emphasize that modern criminal law theory does not have a single definition for the concept of economic crime, and criminology also does not have a single accepted definition for the concept of economic and financial crime in national legislation, nor a single definition in international documents.

Starting from the definition of economic and financial crime from a sociological perspective by Edwin Sutherland⁴, who for the first time in 1939 used the term white collar crime for this type of crime, through numerous analyses of this phenomenon in the areas of the former Yugoslavia and beyond, where the study of economic crime is related to non-violent illegal acts committed by persons who have certain professional knowledge, persons who are in certain positions, functions, have authority and use it to engage in criminal behavior. More precisely, the position or power they have is a condition for appearing in the role of perpetrators of a criminal act. In a global context, transnational economic and financial crime has been the focus of attention of all international organizations for a long time. Their fundamental documents explore the forms in which this type of crime appears, which is precisely why the international community is striving to find ways, methods, means, and of course, the political will of states to implement international documents in their national criminal legislation when defining this type of crime.

One of the fundamental definitions of economic crime can be found in the Recommendation R (81) 12 of the Committee of Ministers of the Council of Europe from 1981⁵, where the concept of economic crime includes a list of 16 characteristic

⁴ Sutherland, E. H., (1961), *White Collar Crime*. New York: Holt, Rinehart and Winston.

⁵ Recommendation No. R (81) 12 of the Committee of Ministers to member States on Economic Crime [https://www.coe.int/t/dghl/monitoring/greco/general/R\(81\)12%20on%20economic%20crime_EN.pdf](https://www.coe.int/t/dghl/monitoring/greco/general/R(81)12%20on%20economic%20crime_EN.pdf).

criminal acts. However, the conclusion that generally prevails is that economic and financial crime is marked by three important characteristics: in this type of crime, the direct damage refers to a specific natural or legal person, but the indirect damage is directed against the overall economic system of one or more countries; the perpetrators of the crimes are persons with a special status that distinguishes them from classic criminals, and in the perpetration of these crimes, modern technologies, abuse of trust, etc. can be used, which significantly complicates its detection and suppression⁶.

Transnational economic and financial crime, in terms of its structure, organization and the functioning of the perpetrators, has the characteristics of organized crime. In response to this type of crime that targets all areas of global economy at the international level, the process of harmonization of criminal legislation had been intensified, by establishing internationally accepted definitions of incriminations for the dominant crimes in this area (corruption, money laundering, etc.).

The development of the concept of preventing corruption (defined in the most general sense - as the abuse of the special position of entities for the purpose of achieving private goals), causes the need to expand the scope of the forms in which it occurs to include acts related to bribery and "trading in influence" in both the public and private economic sectors. Thus, the UN Convention on Corruption removes the distinction between the public and private spheres and, in order to harmonize criminal legislation, stipulates an obligation for signatory states to incriminate several acts: corruption (active and passive bribery), abuse of public or private property by officials and responsible persons, trading in influence and abuse of functions, and illicit enrichment. Several international conventions that have been ratified in the Macedonian legislation specifically indicate money laundering as an additional act that incorporates the basic characteristic of organized economic and financial crime, the pursuit of profit or power.

With this in mind, in parallel with the strengthening of national law enforcement authorities, the role of INTERPOL and EUROPOL and the use of their methods and means of organization, coordination, data analysis and operational action are of particular importance in order to resolve effectively international cases of economic and financial crime.

The PhD dissertation "Contemporary methods in combating transnational economic and financial crime" was intended to contribute to the development of the methodology for researching economic and financial crime. At the same time, it aimed to achieve more applicable goals, especially in terms of examining the extent to which international conventions and agreements have been implemented in the legislation and in practice, to analyze the application of modern methods and means in investigations of economic and financial crime on the national and international level, and to contribute to better coordination and cooperation between the law enforcement agencies in the regional, European and global frameworks and improving cooperation

6 Тупанчески, Н. (2015), Економско казнено право. Скопје: Стоби Трејд ДООЕЛ, стр.. 1-16.

within INTERPOL and EUROPOL.

Starting from the hypothesis that the suppression of transnational economic and financial crime is directly dependent on the functioning, coordination and cooperation of the national law enforcement agencies, and their cooperation and coordination with other institutions abroad and international organizations, the theory was analyzed and discussions were conducted in academic circles. Furthermore, the most significant international legal acts in the field of suppression of economic and financial crime and the results of their implementation were analyzed along with the emerging forms of this type of crime and the conditions that are favorable for its emergence and development.

From the analysis of the regulations, theory, practical examples, i.e. the cases in which the Macedonian institutions acted and the results thereof, in addition to confirming the main hypothesis, it has also been unambiguously confirmed that:

- Harmonization of national legislation with European legislation in order to improve international cooperation, but also to enable criminal and financial investigation of criminal situations that have a transnational character and features of economic and financial crime, must be a continuous process;

- In resolving crimes of an international character for full clarification and documentation, the institutions, and especially the Ministry of Interior, inevitably apply international norms that, through ratification of relevant documents, are an integral part of Macedonian legislation, and bilateral or multilateral agreements can be a good basis for the exchange of information between the contracting parties, and

- The analysis of modern methods for combating economic and financial crime provides a picture of the effects of inter-institutional and international cooperation and the results achieved in these fields. Consequently, it has been confirmed that Macedonian institutions strive to follow modern trends and apply best practices in their work, and one of the main reasons for the success of international financial investigations is the coordinated and unified action of the competent institutions.

State of affairs in the field of economic and financial crime

This article further analyzes the empirical indicators of the commission of criminal offenses in the field of economic and financial crime (including offenses for which there is a practice of international cooperation in their criminal and financial investigation) in the period 2014 - 2024 and monitors trends in relation to data for the period 2009-2013.

According to data from the Macedonian Ministry of Internal Affairs, a total of 4,146 criminal offenses in the area of economic crime were registered between 2009 and 2013, with the most common crime being "Abuse of official position and authority."

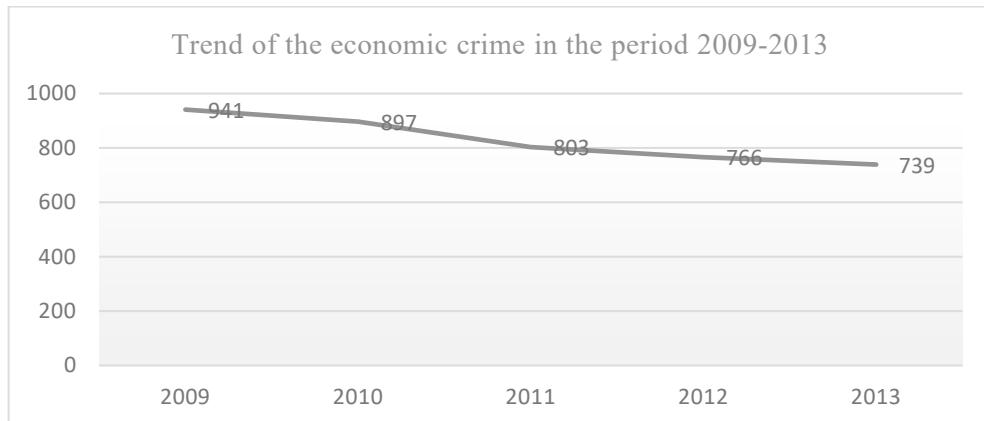


Chart 1: Trend of the economic crime in the period 2009-2013⁷

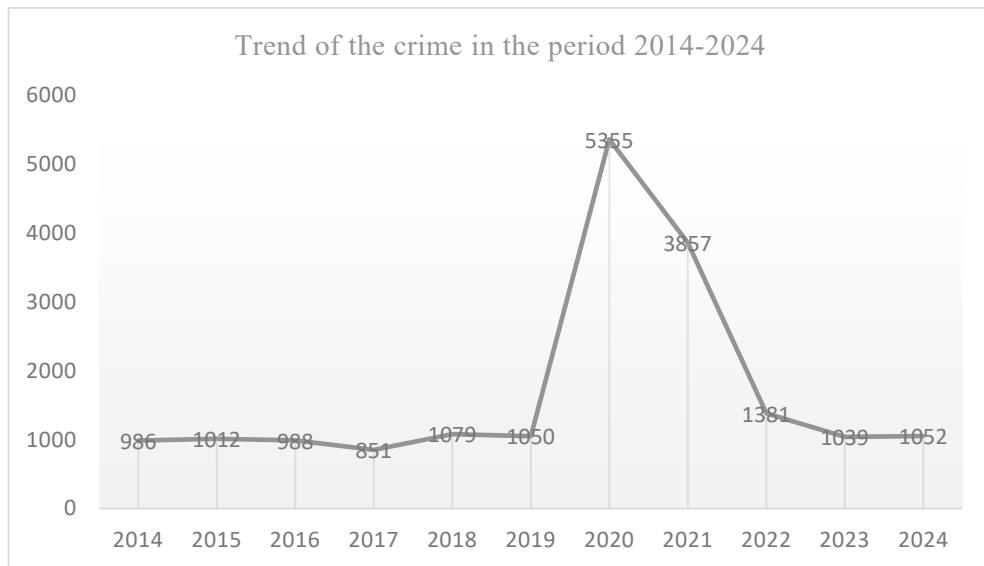


Chart 2: Trend of economic crime in the period 2014-2024⁸

Looking at these years, the number of crimes in this area was in a slight but constant decrease in the period 2009-2013, whereas in the next 10 years the number of crimes in this area is evidently at a stable level with around 1000 crimes per year.

⁷ Source of data: Annual reports of the Ministry of Interior www.mvr.gov.mk and Jankuloska G. (2015) Contemporary methods in combating transnational economic and financial crime, (unpublished PhD Thesis), Faculty of Security – Skopje, UKLO, North Macedonia

⁸ Source: Summary Analysis of Total Crime 2010-2024, <https://mvr.gov.mk/en-GB/analizi-i-statistiki/zbirna-analiza> (accessed on 10.10.2025)

The exception is the significant deviation/increase in 2020 and 2021, which opens new questions for analysis regarding the quality of the conducted criminal investigations in these 2 years, the (non)application of appropriate methods and standard operating procedures, and thus the questionable power of the supporting evidence for the criminal charges filed in this period. This is particularly important, especially considering that proving crimes has always been and remains one of the greatest challenges of the institutions responsible for law enforcement.

Table 1: Territorial distribution of economic crimes by Organizational units in the Ministry of Internal Affairs 2009-2013⁹

Organisational unit	2009	2010	2011	2012	2013
Sector for internal affair Skopje	207	178	151	98	106
Sector for internal affair Bitola	151	138	125	110	104
Sector for internal affair Veles	38	34	42	37	28
Sector for internal affair Kumanovo	83	74	25	69	99
Sector for internal affair Ohrid	132	109	119	134	102
Sector for internal affair Strumica	130	129	108	90	77
Sector for internal affair Tetovo	65	90	86	105	103
Sector for internal affair Shtip	66	80	90	77	68
Department for fight against organised and serious crime	69	65	57	46	52
Total	941	897	803	766	739

Table 2: Territorial distribution of economic crimes by Organizational units in the Ministry of Internal Affairs 2014-2024¹⁰

Organisational unit	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sector for internal affair Skopje	97	123	200	76	122	112	1.601	1.518	230	135	161
Sector for internal affair Bitola	134	134	152	97	154	116	504	226	124	134	143
Sector for internal affair Veles	40	58	47	51	63	65	352	253	65	38	57
Sector for internal affair Kumanovo	87	122	123	77	151	208	311	426	188	86	77
Sector for internal affair Ohrid	141	178	131	139	182	209	568	421	272	181	170
Sector for internal affair Strumica	173	133	91	123	133	96	689	189	101	113	86
Sector for internal affair Tetovo	87	95	97	72	130	146	560	482	251	243	219
Sector for internal affair Shtip	176	139	122	199	135	75	741	337	133	91	94
Department for fight against organised and serious crime	51	30	25	17	9	23	9	5	17	18	45
Total	986	1.012	988	851	1.079	1.050	5.335	3.857	1.381	1.039	1.052

9 Source od data: Annual reports of the Ministry of Interior www.mvr.gov.mk

10 Source: Summary Analysis of Total Crime 2010-2024, <https://mvr.gov.mk/en-GB/analizi-i-statistiki/zbirna-analiza> (accessed on 10.10.2025)

According to the territorial distribution, the majority of economic crimes in both periods 2009-2013 and 2014-2024, were committed under the jurisdiction of the Sector for Internal Affairs Skopje, which corresponds to the largest economic activity in the area covered by the SIA Skopje, but also to the fact that almost all key state administration institutions have their headquarters in this geographical area, so taking into account the dominant participation of the crime of abuse of official position and authority, it seems that the data fully reflect the real situation on the ground.

A brief analysis of the trends and the profile of the problem of economic crime in the Republic of North Macedonia based on publicly available data from the Ministry of Interior confirms that in terms of characteristics, forms of manifestation, the profile of perpetrators and all other characteristics of economic crime in the Republic of Macedonia has the same characteristics as in other countries¹¹. The dynamics and complex methodology for detecting economic crime fully correspond to the fact that operations in the economic sphere are regulated within numerous laws, and the legal framework under which they are carried out, in addition to national legislation, also includes international legal acts and consolidated legal documents for bilateral and multilateral cooperation and exchange of information in this area¹².

Table 3: Overview of the number of concluded international legal acts¹³

Type of document	until 2014	2014-2024
Agreements/Contracts	31	23
Conventions	3	
Memorandums	10	21
Declarations	4	7
Protocols	8	31
Agreements	6	3
Arrangements	1	2
Procedures	1	
Letters of consent and intent	1	2
Joint action plans	1	
Statement of cooperation		2

11 Source: Summary Analysis of Total Crime 2010-2024, <https://mvr.gov.mk/en-GB/analizi-i-statistiki/zbirna-analiza> (accessed on 10.10.2025)

12 Jankuloska G. (2015) Contemporary methods in combating transnational economic and financial crime, (unpublished PhD Thesis), Faculty of Security – Skopje, UKLO, North Macedonia pg. 404-412 and <https://mvr.gov.mk/mk-MK/odnosi-so-javnost/soopstenija> (accessed on 10.10.2025)

13 Source: Jankuloska G. (2015) Contemporary methods in combating transnational economic and financial crime, (unpublished PhD Thesis), Faculty of Security – Skopje, UKLO, North Macedonia pg. 404-412 and <https://mvr.gov.mk/mk-MK/odnosi-so-javnost/soopstenija> (accessed on 10.10.2025)

The analysis of data on the international activity of the Ministry of Internal Affairs in the area of concluding legal acts in the period up to 2014 and the period 2014-2024 shows that after 2014, the trend of concluding agreements, memoranda, protocols and other legal acts that are of importance for international cooperation and exchange of information continues, with an emphasis on memoranda and protocols for implementation. Hence, we can conclude that this period is crucial for cooperation at the international level in terms of the effects of the implementation of legal acts with an international dimension, and this is also confirmed through a case analysis: Analysis of the cooperation of the Republic of North Macedonia with EUROPOL.

Analysis of the cooperation of the Republic of North Macedonia with EUROPOL

In the context of the afore-stated, if we take a closer look at the cooperation with EUROPOL, as one of the key organizations in the fight against crime with an international component (among whose priorities are the fight against economic and financial crime, tax fraud, money laundering, cigarette smuggling, and cases involving an organized criminal structure or two or more countries), the progress in the cooperation with Macedonian institutions over the years is evident.

This cooperation is of particular importance, considering that EUROPOL, which serves as the EU expert center and provides centralized cooperation for law enforcement experts from the member states, has established a number of specialized bodies for greater efficiency and coordination, including the European Financial and Economic Crime Center - EFECC as a platform for integrating and analyzing data on economic and financial crime. Also, through specialized systems, which offer fast and secure capabilities for storing, searching, visualizing and linking information, countries receive a sophisticated tool for fighting crime, among which FIU.net should be especially highlighted as a computer network that supports the financial intelligence units in the EU. Of particular importance is the Secure Information Exchange Network (SIENA), as a state-of-the-art platform that meets the communication needs of EU law enforcement; the EUROPOL Platform for Experts (EPE) and the European Information System as a reference system for offenses, persons involved in them and other related data.

The cooperation between North Macedonia and the European Police Office - EUROPOL dates back to 2007¹⁴, at the level of contractual relations for the exchange of strategic and technical information. After the conclusion of this agreement for its implementation and the creation of conditions for the signing of an Operational Agreement for cooperation with EUROPOL¹⁵, the obligations arising from the Strategic Agreement were fulfilled and thus the prerequisites for the signing of an Operational Agreement with EUROPOL were created. Once the Agreement entered into force, operational activities have been intensified and strategic activities for greater

14 Strategic Cooperation Agreement (Official Gazette of RNM 17/08).

15 Operational and Strategic Cooperation Agreement (Official Gazette 172/11).

representation and participation of Macedonian institutions in EUROPOL activities have continued with unabated intensity. Additionally, when the new legal framework for EUROPOL – EUROPOL Regulation entered into force in 2017, the mandate of EUROPOL was strengthened, and its ability to act as a center for collecting and merging information at the EU level improved, in areas of interest, and one of the key novelties established in the new legal framework was the update of the mandate of EUROPOL, in the part of criminal acts under its jurisdiction, which resulted in the update of the contractual relations with the operational cooperation partners, including with Macedonia, with respect to the forms of crime that will be under EUROPOL jurisdiction. The coordination of the Operational actions takes place at two levels - the Coordination Regional Operational Center in EUROPOL, and the National Coordination Centers, where representatives of the appropriate organizational forms participate, whereby the SMPS, EUROPOL Department, through the SIENA application performs a rapid and secure exchange of operational information.

The signing of the operational cooperation agreement and the establishment of the SIENA secure information exchange channel enabled the intensification of operational cooperation with EUROPOL, and enabled more efficient operational cooperation and direct participation in the analytical work files of EUROPOL - AWF - Analysis Work File because the operational cooperation agreement enabled the exchange of both personal and classified data regarding persons involved in criminal activities within the framework of EUROPOL.

Otherwise, chronologically speaking, back in 2013 Macedonia participated in a Joint Investigation Team (JIT) with Austria, Germany and the Netherlands, in which EUROPOL and Eurojust also participated within the framework of their competences as the only third country, and starting from 2015 it has participated in the Joint Operational Days (JAD) of the operational actions within the framework of EMPACT (European Multidisciplinary Platform Against Criminal Threats), where through the EUROPOL Department, using the SIENA secure communication link, activities for the implementation of operations were coordinated and operational information was exchanged between the operational coordination centers in EUROPOL, the National Coordination Centers and the countries participating in the Operation.

Conclusion

Based on the previously conducted analyses, for further improvement in this area, most of the recommendations that emerged ten years ago and from today's perspective are still relevant and could contribute to improving the situation in this area. In this sense, in an international framework:

1. There is a constant need for continuous improvement of international legal acts, improvement of international rules and norms and strengthening of international cooperation and each country should follow these trends and constantly harmonize its legislation.

2. As the number of signed bilateral and multilateral agreements and other legal acts increases, the methods used for their implementation should be constantly improved, and special emphasis should be placed on deepening mutual contacts and arrangements of states and institutions responsible for law enforcement and on the proper implementation of the principles of cross-border and international cooperation.

3. The exchange of information (including classified information) should be constantly strengthened and joint analyses and investigations of all types of crime (including transnational economic and financial crime) should be facilitated, while the transfer of knowledge and good practices, as well as the mutual connection and communication of professionals remain key to raising the level of mutual cooperation.

Finally, despite the fact that the Republic of Macedonia adopted a Law on a National Criminal Intelligence Database in 2009 (the aim of which is to unify the individual databases of the institutions responsible for law enforcement), according to the available publicly accessible information, there is no possibility to analyze the effects of its adoption. Yet, within a national framework, greater affirmation and full practical application of this law is necessary as a tool for centralized collection, exchange and data processing among the competent institutions for fight against organized crime. In the era of growing use of Artificial Intelligence, while criminals easily accommodate their behavior and take advantage of technology, the law enforcement agencies should keep up on the side of the fight against crime and use the technology in their favor, especially when it comes to data collection and analysis. That will result with a direct impact on improving the quality of investigations and improving the efficiency of the institutions-users of the database.

REFERENCES:

Jankuloska, G. (2015), Contemporary methods in combating transnational economic and financial crime, (unpublished PhD theses), Faculty of Security – Skopje, UKLO, North Macedonia.

Национална стратегија за безбедност на Република Северна Македонија 2024-2029, https://vlada.mk/sites/default/files/dokumenti/strategii/nacionalna_strategija_za_bezbednost_na_republika_severna_makedonija_1.docx_2.pdf.

Tomanović, M., (1990), Krivična dela korupcije, Beograd.

Николоска, С., (2008), Кривични дела против службената должност, Факултет за безбедност, Скопје.

Grigoreva, E. & Garifova, L., (2015), The economic security of the state: the institutional aspect, Procedia Economics and Finance 24: 266–273. doi.org/10.1016/S2212-5671(15)00658-9.

Sutherland, E.H., (1961), White Collar Crime. New York: Holt, Rinehart and Winston.

Recommendation No. R (81) 12 of the Committee of Ministers to member States on Economic Crime [https://www.coe.int/t/dg1/monitoring/greco/general/R\(81\)12%20on%20economic%20crime_EN.pdf](https://www.coe.int/t/dg1/monitoring/greco/general/R(81)12%20on%20economic%20crime_EN.pdf).

Тупанчески, Н., (2015), Економско казнено право, Стоби Трејд ДООЕЛ, Скопје

Annual reports of the Ministry of interior www.mvr.gov.mk an

Summary Analisys of Total Crime 2010-2024, <https://mvr.gov.mk/en-GB/analizi-i-statistiki/zbirna-analiza> (accessed on 10.10.2025)

Ministry of interior, Public relations <https://mvr.gov.mk/mk-MK/odnosi-so-javnost/soopstenija>

Strategic Cooperation Agreement between the Republic of Macedonia andEUROPOL (Official Gazette of RNM 17/08)

Operational and Strategic Cooperation Agreement between the Republic of Macedonia and EUROPOL (Official Gazette 172/11).

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THE SOVEREIGN MIRAGE: HOW GUINEA’S JUNTA IS ENGINEERING DEMOCRACY WITHOUT LIBERTY

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Abstract: *This article delivers a rigorous political-economy analysis of Guinea’s drift into what the authors term “simulated democracy” following the military coup of September 5th, 2021 led by Colonel Mamadi Doumbouya. They argue that the junta has systematically hollowed out democratic institutions—not to enable a transition to civilian rule, but to construct a carefully managed façade of legitimacy that conceals a deeper project of authoritarian consolidation. The authors situate the coup within Guinea’s long history of personalized rule and constitutional manipulation, from Sékou Touré to Professor Alpha Condé, drawing on Guillermo O’Donnell’s theories of delegative and simulated democracy to introduce the incisive concept of “democracy without sovereignty,” in which democratic forms persist while substantive authority remains monopolized by the military.*

The article deconstructs the regime’s strategy in detail, examining the suspension of major opposition parties, the instrumentalization of the judiciary, restrictions on the media, and the orchestration of a constitutional referendum designed to entrench—not relinquish—military power. The case of former Prime Minister Ibrahima Kassory Fofana, a U.S. citizen, serves as a diagnostic lens revealing the junta’s contempt for judicial independence and international norms: his arbitrary detention, medical neglect, and the junta’s open defiance of a binding ECOWAS Court of Justice ruling ordering

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his release illustrate the regime's broader strategy of legal nihilism. The analysis also broadens to expose the geopolitical and economic forces shaping the crisis, emphasizing the struggle for control over Guinea's immense reserves of bauxite, iron ore, and critical minerals. The authors contend that the junta's authoritarian trajectory is intertwined with a nexus linking military elites to international economic interests, enabling a renewed form of resource predation.

In conclusion, Guinea stands today at a critical and perilous crossroads. The constitutional referendum of 21 September 2025 has not resolved the crisis; rather, it has deepened it by entrenching a new architecture of authoritarian governance and perpetuating the long-standing erosion of democratic norms, institutional checks and balances, and the sovereignty of the Guinean people. The presidential election announced by the military junta for 28 December 2025 must be understood in this context. Far from marking a return to constitutional order, this electoral process—conceived, organized, and controlled by a transitional military authority—constitutes a regression into non-democratic governance. Such an election cannot meet the minimal conditions of legitimacy, transparency, or political pluralism. For this reason, the international community—including the United Nations, the African Union, ECOWAS, the European Union, and particularly the White House—must adopt a firm, unified, and principled position.

Keywords: *Simulated Democracy, Military Junta, Authoritarian Consolidation, Constitutional Legitimacy, Popular Sovereignty, Electoral Authoritarianism, Delegative Democracy, Resource Curse, ECOWAS, Political Repression, Alpha Condé, Ibrahima Kassory Fofana, West African Coups, Neocolonialism, International Law · Guinea*

Introduction: The Architecture of Illusion

In the heart of West Africa, a political experiment in illusion is reaching its climax. The Republic of Guinea, a nation blessed with unimaginable mineral wealth and a vibrant, youthful population, is being systematically stripped of its sovereignty. The architects of this project are not foreign invaders but its own military junta, which seized power on September 5, 2021. Nearly four years later, the regime of Colonel Mamady Doumbouya is not preparing a return to civilian rule. Instead, it is perfecting what the late political scientist Guillermo O'Donnell (1994) termed a “simulated democracy”—a system in which the rituals of democratic life persist, but all substantive authority is monopolized by an unelected, coercive elite.

The evidence of this simulation is stark, yet the international response remains dangerously muted. In August 2025, the junta suspended the country's two principal

political parties—the Union of Democratic Forces of Guinea (UFDG) and the Rally of the Guinean People (RPG)—effectively decapitating the opposition. The constitutional referendum of September 21, 2025, was less a national debate than a staged plebiscite, designed to entrench military control within a new foundational text. The presidential election scheduled for December 28, 2025, represents the final act in this play: an electoral process conceived, administered, and controlled by the military, destined to produce a result that formalizes Colonel Doumbouya's rule under a civilian guise.

This is not a democratic transition; it is a regression. It constitutes a grave threat not only to the Guinean people but to the stability of West Africa and the credibility of international democratic norms. Allowing this charade to succeed would signal to authoritarian forces across the region that with sufficient cunning, the forms of democracy can be weaponized to kill its substance.

This article argues that the Doumbouya regime's project must be understood as a deliberate and sophisticated strategy of authoritarian consolidation, distinct from the turbulent politics of the Sahel and deeply rooted in Guinea's history of personalized rule. The junta is leveraging the country's vast mineral resources to secure its power, while its repression—exemplified by the arbitrary detention of former Prime Minister Ibrahima Kassory Fofana, a U.S. citizen—demonstrates a blatant disregard for both domestic dissent and international law. The international community, particularly the United States and the European Union, must move beyond strategic ambiguity and adopt a firm, unified, and principled stance. To do otherwise is to become complicit in the construction of a sovereign mirage.

I. The Theory of the Hollow: From Delegative to Simulated Democracy

To understand Guinea's present, one must first understand the theoretical evolution of its political decay. The journey begins with the concept of “delegative democracy,” articulated by Guillermo O'Donnell in the 1990s. This describes a system where a leader is elected democratically but then governs largely unchecked, viewing themselves as the embodiment of the national will and treating institutions, courts, and legislatures as nuisances rather than checks on power. The justification is often rooted in a crisis—economic, security, or developmental—that demands swift, centralized action.

The presidency of Alpha Condé (2010-2021) offers a textbook illustration. Initially hailed as Guinea's first democratically elected leader, Condé grew increasingly authoritarian. His drive for a third term, achieved through a controversial constitutional referendum in 2020, was framed as a necessity to complete his political and economic projects. While widely condemned and met with brutal repression of protests, this process operated within a recognizably democratic framework, however flawed. It was submitted to a popular vote and, though contested, was recognized by international observers. Condé's regime was a classic case of delegative democracy: power was being concentrated within a pre-existing, albeit fragile, democratic system.

Colonel Doumbouya's coup and its aftermath represent a qualitative shift from

this model to the more pernicious concept of “simulated democracy.” Here, the regime does not just concentrate power within a system; it actively constructs a new, parallel system that mimics democracy while being entirely subordinated to authoritarian control. As Philippe Schmitter (1999) notes, in such systems, elections, parties, and legislatures exist but are “hollowed out of their usual representative functions.” The goal is not to govern through democratic institutions but to use the image of those institutions to secure legitimacy, both domestically and internationally.

In Guinea today, the junta is not merely delaying a return to democracy; it is building an alternative political reality. The new constitution is not a social contract but a tool for legitimization. The scheduled election is not a mechanism for choice but a ceremony of acclamation. The opposition is not a rival but a prop to be removed when it becomes inconvenient. This goes beyond the “competitive authoritarianism” described by Levitsky and Way (2010), where incumbents face a real, if unfair, risk of losing elections. In Guinea, the playing field is not tilted; it is a stage, and the outcome is scripted. The regime maintains a veneer of pluralism while ensuring that no meaningful challenge can ever arise.

This theoretical distinction is crucial. Misdiagnosing Guinea’s simulation as a mere “slow transition” or “flawed democracy” leads to policy prescriptions that are, at best, ineffective and, at worst, legitimizing. The international community is not dealing with a reluctant democratizer but with a regime that has a coherent, anti-democratic endgame: to create a democracy without sovereignty, where the people are spectators in their own political destiny.

II. A History of Hostaged Constitutions: The Guinean Precedent

The junta’s current playbook is not an innovation but rather the latest chapter in Guinea’s long history of constitutional capture. Since independence, the nation’s foundational texts have repeatedly been held hostage to the ambitions of individual rulers, creating a cyclical pattern of personalization and collapse.

Ahmed Sékou Touré (1958–1984) established the template. His was a one-party state, and the constitution served as a manifesto for his revolutionary “Democratic Party of Guinea” (PDG). It was less a framework for balancing power than a document to sanctify the party’s—and his own—absolute authority. This period was marked by extreme centralization, a pervasive cult of personality, and systematic repression, creating a political culture where institutions were subservient to the executive.

Lansana Conté (1984–2008) inherited this centralized state. After a military coup, he oversaw a transition to a nominal multi-party system and the adoption of a new constitution in 1990. Initially raising hopes of liberalization, this text was soon manipulated and hollowed out. Conté used constitutional revisions and electoral manipulation to prolong his rule, demonstrating that the form of democracy could be maintained even as its substance was drained away. The state remained a personal fiefdom, with power flowing not from institutions but from the presidential palace.

Alpha Condé (2010–2021) represented a potential break. A former political prisoner and long-time opposition leader, his election was a landmark moment. Yet, after a decade in power, he succumbed to the same "founder-president" syndrome. His push for a third term via the 2020 constitutional referendum was justified as a necessary step for his development agenda, but it was widely seen as a betrayal of his democratic principles and a return to the old pattern of personalizing constitutional authority.

The lesson of this history is unambiguous, as we have argued elsewhere (Errouaki & Nell, 2024): whenever state power has been harnessed to subordinate the Constitution to the ambitions of a single individual, the political order has ultimately collapsed. Each effort has produced only a fragile illusion of stability—an illusion invariably undone by its own internal contradictions. The current military leadership is not an exception to this rule; it is its most recent embodiment. By attempting to inscribe its own authority into a new constitutional framework, the junta situates itself less as an architect of renewal than as the perpetrator of yet another usurpation. Political authority rooted in coercion and constitutional distortion is inherently unsustainable.

III. The 2021 Coup: Pretext, Cause, and the Mining Nexus

The dominant Western narrative of the 2021 coup is deceptively simple: President Alpha Condé initiated an "authoritarian drift" by amending the constitution, which justified his overthrow. This interpretation is dangerously reductive, conflating pretext with cause. The putsch was not a popular revolution but a targeted operation by a special forces unit. Its motivations were multiple and complex, rooted in internal resistance to Condé's reforms and, more importantly, in external calculations regarding control over Guinea's immense resource wealth.

The work of scholar-diplomat Adrien Poussou (2022) provides a crucial alternative perspective. He argues that Condé's constitutional initiatives sought not merely to prolong his tenure but to establish resilient institutional architectures capable of shielding Guinea from enduring post-colonial interference. More critically, Condé's efforts to renegotiate extractive industry contracts and assert greater national economic sovereignty provoked strong opposition from entrenched international and domestic interests. This dynamic exemplifies the "resource curse" thesis advanced by economists such as Jeffrey Sachs, wherein natural resource abundance tends to foster external intervention and internal instability.

Guinea is the world's second-largest producer of bauxite and sits on the Simandou range, one of the largest untapped high-grade iron ore deposits on the planet. Control over these resources, critical for everything from aluminum to the global energy transition, represents trillions of dollars in future revenue. Condé's government was moving to ensure a larger share of this wealth remained in Guinea, reviewing mining codes and challenging the terms held by international conglomerates. This assertiveness threatened a well-established, lucrative status quo for both foreign corporations and the domestic elites who benefited from it.

The coup, therefore, can be analyzed through the “grievance vs. greed” framework of Collier and Hoeffler (2002). While popular grievances against Condé’s third term provided a social backdrop, the primary driver was elite greed—a calculated intervention to capture the commanding heights of the state and the resource rents they control. The internal resistance to Condé’s anti-corruption reforms, which threatened vested interests within the army and state apparatus, fused with the external pressure from mining interests to create a powerful coalition for his removal.

The international community’s immediate response was revealing. France quickly initiated pragmatic dialogue with the junta, signaling tacit assent. The United States adopted a stance of strategic withdrawal, prioritizing stability over the defense of democratic principle. This contrasted sharply with the condemnation heaped upon Condé for his constitutional maneuvers, revealing a profound asymmetry in the application of democratic standards. As Poussou observes, constitutional adjustments outside Africa are frequently accepted as sovereign prerogatives, while analogous measures within African states are disproportionately scrutinized and condemned. This double standard reveals the instrumentalization of democratic rhetoric according to geopolitical and economic convenience.

IV. The Playbook of Simulation: A Step-by-Step Deconstruction

The Doumbouya junta has executed a methodical, multi-pronged strategy to construct its simulated democracy. Each step is designed to give the appearance of a democratic process while systematically eliminating any possibility of a genuine political alternative.

Step 1: Neutralizing the Opposition and Creating “Ghost” Parties

On August 23, 2025, the Ministry of Territorial Administration, under General Ibrahima Kalil Condé, suspended the country’s two main political parties—the UFDG of Cellou Dalein Diallo and the RPG of Alpha Condé—for 90 days. The justification was administrative technicalities, but the intent was transparent: to sideline the only political forces capable of mounting a credible challenge ahead of the constitutional referendum and the planned presidential election. Simultaneously, the junta conducted an arbitrary “evaluation” of political parties, resulting in an official list of nearly 150 entities. Most are artificial, unknown “ghost parties,” directly controlled by the regime to create a fictitious landscape of pluralism and dilute the legitimacy of the historical giants.

Step 2: Muzzling the Public Sphere

Since the coup, political life has been heavily restricted. The regime’s logic was bluntly articulated by government spokesperson Ousmane Gaoual Diallo: “There is no opposition in a transitional regime, because there is no ruling party.” This rhetoric institutionalizes the marginalization of political parties. Meanwhile, the media has been instrumentalized. Independent voices are silenced through intimidation, closure, and violence, while the airwaves are reserved for pro-regime propaganda supporting the

constitutional project. The press, which should be a watchdog, has been transformed into a lapdog.

Step 3: Staging the Constitutional Referendum

The referendum of September 21, 2025, was officially presented as a decisive step toward restoring democratic governance. In practice, it was a political debacle that deepened the country's crisis. Rather than a moment of inclusive national deliberation, it was characterized by coerced mobilization of civil servants, forced allegiances, and a complete absence of genuine public debate. The constitutional text itself was crafted to provide a legal pathway for Colonel Doumbouya to run for president, despite prior commitments in the 2022 Transition Charter barring junta members from doing so. It was a ritual designed not to reflect the popular will but to legitimize a pre-determined outcome: the continuation of military dominance under a civilianized facade.

Step 4: Instrumentalizing the Judiciary and Defying International Law

The junta has turned the judiciary into an instrument of political control, using it to harass opponents and legitimize its decisions. The most egregious example is the case of Ibrahima Kassory Fofana, the former Prime Minister and a dual Guinean-American citizen. Since his arbitrary arrest in April 2022, he has been imprisoned without trial. In a stark demonstration of legal nihilism, the junta has openly defied a binding October 2023 ruling from the ECOWAS Court of Justice that ordered his immediate release. Fofana's health has severely deteriorated in detention, and requests for his medical evacuation have been ignored, creating a dire humanitarian situation. His case is a diagnostic lens into the regime's character: it shows contempt for judicial independence, disregard for international norms, and a willingness to use cruelty as a tool of political control.

Fofana also symbolizes institutional resistance to authoritarianism. As Levitsky and Way (2010) note, electoral authoritarian regimes often sustain legitimacy by neutralizing opposition and circumventing institutional constraints. His release is therefore inseparable from the credibility of international commitments to democracy and the rule of law (Errouaki and Nell, 2024).

Step 5: The Final Act: The December 2025 Presidential Election

The upcoming presidential election is the culmination of this simulated process. Conceived, administered, and controlled by the transitional military authority, it cannot, under any circumstances, meet the minimal conditions of legitimacy, transparency, or political pluralism. With the main opposition parties suspended, their leaders in exile, the media muzzled, and the state apparatus fully deployed in the junta's favor, the outcome is predetermined. It is designed not to choose a leader but to anoint one, transforming Colonel Doumbouya from a military putschist into a "democratically elected" president, thereby constitutionalizing the coup.

V. The Fofana Case: A Diagnostic Lens

The ordeal of Ibrahima Kassory Fofana deserves particular emphasis, as it crystallizes the broader crisis. Fofana is no ordinary political actor. A former Minister of Finance under Lansana Conté and a representative to the IMF and World Bank,

he devoted much of his career to state service. After pursuing a Master's degree in the United States, he returned to Guinea to participate in its democratic process. His arbitrary detention, therefore, is an attack not just on a person, but on the very principle of committed public service.

His case highlights several critical failures:

The Collapse of Rule of Law: Detention without trial violates both Guinean law and international human rights standards.

The Impotence of Regional Institutions: The junta's defiance of the ECOWAS Court ruling exposes the vulnerability of regional legal mechanisms in the face of military coercion.

International Apathy: Despite his U.S. citizenship, diplomatic interventions, including from a member of the U.S. Congress, have been ignored with impunity. This undermines the credibility of American consular protection and sets a dangerous precedent.

Humanitarian Crisis: The deliberate neglect of his critical medical condition amounts to a potential death sentence, underscoring the regime's brutality.

Fofana's release is a litmus test for the regime's intentions and the international community's resolve. His continued imprisonment is a testament to the fact that Guinea is governed by force, not law.

VI. The Regional Context: Why Guinea Is Not the Sahel

A common analytical error is to homogenize the wave of coups across West Africa. While Mali, Burkina Faso, and Niger have also experienced military takeovers, the logic, legitimacy, and trajectory of Guinea's coup are distinctly different. Applying a one-size-fits-all label of "democratic crisis" obscures crucial distinctions and leads to flawed policy.

Using the typology of Geddes, Powell, and Thyne (2011), the Sahelian coups can be categorized as "reformist" or "corrective." The militaries in Bamako, Ouagadougou, and Niamey seized power from civilian governments widely perceived as incapable of ensuring security against jihadist insurgencies and of defending national sovereignty against former colonial powers. To a significant extent, these coups enjoyed a degree of popular support, framed as acts of "national liberation."

In contrast, Doumbouya's coup in Guinea clearly falls into the "opportunistic" or "predatory" category. It neutralized a democratically elected regime, albeit a flawed one, that was not facing a widespread existential security threat. Its justifications were vague appeals to "restore democracy" and end corruption, but its actions have revealed a project of long-term power capture. Unlike in the Sahel, the Guinean junta lacks deep social legitimacy and relies more heavily on coercion and institutional manipulation.

This distinction is evident in their international relations. The Sahelian juntas have explicitly and publicly redefined their relationships with former colonial powers like France, seeking new partnerships with Russia. The Guinean junta, while also

leveraging international partnerships, has been more careful to maintain a facade of engagement with Western institutions, even while defying their legal rulings, as the Fofana case shows. Its primary focus is internal control and resource consolidation, not a dramatic reorientation of foreign policy.

Criterion	Guinea (2021)	Sahel (Mali, Burkina, Niger)
Pre-coup Context	Elected regime with institutional limits & mining disputes	Civilian governments in profound security & institutional crisis
Coup Typology	Opportunistic/Predatory	Reformist/Corrective
Popular Support	Limited, relies on coercion	Relatively high, framed as “national liberation”
Primary Justification	Restore democracy (vague)	Regain sovereignty & protect population from terrorists
Institutional Management	Centralization, opposition suppression, simulation	Incomplete reforms, sometimes symbolic of sovereignty

Recognizing these differences is essential. The international community cannot apply a single strategy across all contexts without risking the empowerment of juntas in places like Guinea or further destabilizing nations facing genuine security crises in the Sahel.

VII. The Criminal Nexus: Guinea as a Narco-State in the Making?

The power vacuum and institutional fragmentation following the coup have created an ideal environment for transnational criminal organizations (TCOs). Since September 2021, Guinea-Conakry has experienced a rapid and alarming transformation into a major hub for cocaine trafficking, serving as a critical transit point between Latin America and Europe.

This trend is not a minor criminal issue; it is a direct threat to governance and regional security. The operating environment is permissive: weak customs enforcement, compromised port security in Conakry, and negligible aerial and maritime surveillance create a low-risk, high-reward environment for traffickers. The infrastructure and corrupt networks established for cocaine are being leveraged for other illicit economies, including arms trafficking and illegal mining, creating a synergistic criminal ecosystem.

This trajectory mirrors that of Guinea-Bissau in the early 2000s, where state capture by criminal elements led to prolonged instability. Given Guinea-Conakry's larger economy and population, its descent into a full-blown narco-state would represent a far greater strategic threat. The immense profits from narcotics are used to corrupt officials,

co-opt state institutions, and finance other illicit activities, potentially including links to terrorist groups in the Sahel. This criminal convergence fundamentally weakens the rule of law and creates safe havens for groups that threaten U.S. and European interests.

The progress achieved under President Condé—who, with support from the EU and Spain, had launched a determined campaign against narcotics trafficking—is at risk of total reversal. The current junta either lacks the capacity or the will to confront this threat, and some of its members may be directly complicit. This represents a clear and present danger that requires urgent, coordinated international action beyond the political sphere.

VIII. Policy Recommendations: A Call for Coherent Action

Colonel Doumbouya's regime is steering Guinea not toward democracy but toward codified electoral authoritarianism. The upcoming presidential election is likely to be a mere formality designed to legitimize power obtained through coercion.

The international community—especially African institutions and democratic partners—cannot remain passive. The choice is between endorsing a sham electoral process or supporting a genuine restoration of popular sovereignty in Guinea: protecting fundamental rights, supporting historical parties, and ensuring a free and transparent political space.

Guinea stands at a critical and profoundly perilous crossroads. The constitutional referendum of September 2025 has not brought stability but has deepened the crisis by consolidating a new architecture of authoritarian governance. The presidential election scheduled for December 2025, if held under current conditions, will be the final piece in this architecture, formalizing military rule under the veneer of electoral legitimacy. The cost of accepting this simulation is unacceptably high: the entrenchment of authoritarianism, the acceleration of the resource curse, the potential creation of a criminalized state, and a green light for other would-be autocrats in the region.

The international community—including the United Nations, the African Union, ECOWAS, the European Union, and critically, the United States—must abandon its ambivalent stance and adopt a clear, unified, and principled position. Close coordination between the White House and the United Nations will be essential to ensure the response carries the necessary weight and authority.

We propose the following concrete actions:

Reject the Simulation upfront: The international community should state unequivocally that the presidential election of December 28, 2025, cannot be credible or legitimate under the current conditions of suspended parties, muzzled media, and political repression. Should the junta proceed, any resulting government must be deemed null, non-credible, and devoid of international recognition.

Impose and Enforce Targeted Sanctions: Utilize tools like the U.S. Global Magnitsky Act and EU sanctions regimes to target junta leaders, their economic enablers, and their families. Sanctions should focus on asset freezes and travel bans, and must be

rigorously enforced. The release of Ibrahima Kassory Fofana and all political prisoners should be a non-negotiable condition for the lifting of these sanctions.

Condition All Engagement: All foreign investment, security assistance, and developmental aid to the Guinean transitional government must be contingent on a clear, verifiable, and enforceable timetable for a genuine transition. This must include the reinstatement of suspended political parties, the guarantee of full freedoms of assembly and the press, and the establishment of an independent electoral commission.

Strengthen Regional Institutions: Provide robust political and technical support to ECOWAS to ensure it can enforce its own protocols on democracy and good governance. The junta's defiance of the ECOWAS Court in the Fofana case must not stand; it requires a unified regional response.

Combat Criminal Entrenchment: Immediately authorize and fund the deployment of an enhanced DEA Transnational Organized Crime Task Force to Conakry, focused on intelligence-driven operations. Task AFRICOM and intelligence agencies with establishing a multilateral intelligence fusion cell with regional and European partners to disrupt narcotics trafficking networks in the Gulf of Guinea within 90 days.

Reaffirm Constitutional Legitimacy: As a powerful symbolic gesture, the United States should re-engage with constitutionally legitimate figures who embody the democratic struggle, such as former President Alpha Condé. Hosting him at the White House would send an unambiguous message that the United States stands with leaders who derive their mandate from the ballot, not the bullet.

Inviting President Alpha Condé to the White House would be a historically significant diplomatic gesture. It would signal unequivocally that the United States supports constitutionally elected leaders and will not tolerate the legitimization of military coups in Africa or elsewhere.

President Condé is far from an ordinary leader. Since the 1960s, he has been a leading figure in the fight for democracy and freedom in Guinea. As a young man, he courageously opposed the authoritarian regimes of Ahmed Sékou Touré and later General Lansana Conté, enduring imprisonment, exile, and political persecution. This lifelong struggle for democratic governance grants Condé an indisputable moral and political legitimacy.

Unlike many African leaders who have assumed power through force or opaque arrangements, Condé devoted more than four decades to peaceful, intellectual, and political advocacy for the rule of law in Guinea. His electoral victory in 2010, after decades in opposition, was celebrated internationally as the culmination of a long democratic process and a reflection of the Guinean people's aspiration for freedom and justice.

Condé has previously engaged in high-level diplomatic exchanges, having been received at the White House in 2014 with President Barack Obama and meeting multiple times with President Donald Trump during his first term (2017–2020). These interactions established a foundation of mutual trust and respect, providing a valuable diplomatic asset for the United States.

Since his forcible removal in September 2021, Condé has never relinquished his constitutional mandate. Mass mobilizations by the Guinean people continue to demand his restoration, demonstrating that he remains the legitimate representative of popular will. Hosting him at the White House would reaffirm the principle that legitimate power derives from the ballot, not from coercion, and it would honor a lifetime dedicated to democracy.

The world is watching. The choice is not between stability and democracy in Guinea, but between a managed decline into authoritarian predation and a chance for a sovereign, prosperous future. The mirage can be dispelled, but only with resolve, coherence, and a unwavering commitment to the principle that true sovereignty resides with the people, not in the barracks.

Conclusion

Guinea stands today at a critical and profoundly perilous crossroads. The constitutional referendum of 21 September 2025 has not brought the country closer to stability. On the contrary, it has deepened the national crisis by consolidating a new architecture of authoritarian governance and accelerating the long-standing erosion of democratic norms, institutional checks and balances, and, above all, the sovereign will of the Guinean people.

In this context, the presidential election announced by the military junta for 28 December 2025 must be assessed with utmost seriousness. Far from representing a return to constitutional order, this electoral process—conceived, administered, and controlled by a transitional military authority—constitutes a grave regression into non-democratic governance. Such an election cannot, under any circumstances, meet the minimal requirements of legitimacy, transparency, or political pluralism.

As Errouaki and Nell (2024) underscore, an unconstrained military regime is structurally inclined to relinquish strategic national assets to competing foreign powers, thereby jeopardizing both U.S. interests and broader regional stability. In this context, the restoration of constitutional governance in Guinea is not only a matter of principle; it is directly tied to safeguarding U.S. geopolitical, security, and economic priorities in West Africa. The consolidation of legitimate institutions is therefore essential to preventing external actors from exploiting Guinea's political fragility for strategic gain.

U.S. engagement in Guinea cannot be limited to symbolic statements or rhetorical condemnation. As Geddes, Powell, and Thyne (2011) emphasize, international indifference provides fertile ground for the entrenchment of opportunistic coups. Passive acquiescence to a simulated democracy—where institutions are manipulated to create a veneer of legitimacy—risks establishing dangerous precedents for other authoritarian regimes in West Africa and eroding the international norm that legitimate authority derives from popular consent rather than military coercion. In this context, a decisive, coherent, and sustained diplomatic strategy is indispensable to uphold democratic principles, reinforce global norms, and protect U.S. strategic, political, and economic interests in the region.

For these reasons, the international community—including the United Nations, the African Union, ECOWAS, the US and the European Union—must adopt a clear, unified, and principled position.

Critically, close coordination between the United Nations and the White House will be essential to ensure that the response of the international community carries the weight, coherence, and authority required to avert a lasting democratic rupture. Under the leadership of President Donald Trump, and in concert with the UN Secretary-General, the United States has a unique capacity to mobilize a robust, coordinated, and credible international stance capable of influencing the trajectory of the crisis.

In particular, the international community should make unequivocally clear that:

The presidential election planned for 28 December 2025 cannot take place under current conditions, as it would merely serve to formalize military rule under the veneer of electoral legitimacy.

Should the junta proceed despite international appeals, any results emerging from such a process must be deemed null, non-credible, and devoid of international legitimacy. No government produced through such an electoral exercise should be recognized or accorded diplomatic standing.

A decisive and coordinated response—rooted in international law and anchored in strong U.S.–UN cooperation—is indispensable to prevent the entrenchment of authoritarian governance and to avoid a destabilizing precedent for the region.

The authors therefore call for a resolute, coherent, and principled mobilization of the international community—one that defends constitutional legality, safeguards popular sovereignty, and supports the legitimate aspirations of the Guinean people for peace, justice, and authentic democratic governance. Only through such collective resolve can Guinea be steered away from authoritarian consolidation and toward a future anchored in stability, dignity, and the rule of law.

FOOTNOTES:

1. Since June 2022, prominent international figures have actively campaigned for the release of Ibrahima Kassory Fofana, emphasizing both the legal and humanitarian dimensions of his case. Leading voices include Professor Federico Mayor, former Director-General of UNESCO, and Professor Karim Errouaki, former Special Advisor to UN Secretary-General Boutros Boutros-Ghali and the High Representative for Foreign Affairs and Human Rights of the UNACCC and UNACCC High Representative to the EU. They have formally appealed to key global leaders—including UN Secretary-General António Guterres, UN High Commissioner for Human Rights Michelle Bachelet, and EU High Representative for Foreign Affairs Josep Borrell—urging the enforcement of international legal standards and the protection of fundamental human rights. Their interventions have highlighted the junta’s defiance of the binding ECOWAS Court of Justice ruling ordering Fofana’s release, framing the issue not merely as a matter of domestic politics, but as a test of the international community’s commitment to justice, rule of law, and regional accountability.

Footnote: *The views and opinions expressed in this article are solely those of the authors. They do not purport to reflect, and should not be interpreted as reflecting, the positions, policies, or official views of any institutions, organizations, or entities with which the authors are or have been affiliated.*

REFERENCES:

Errouaki, K., & Nell, E. (2024). Rethinking Democracy and Development in Africa: A Call for Sovereignty and Dignity. UM (forthcoming as a book in 2026), University of Malaga, Malaga, Spain.

Foreign Policy Research Institute (FPRI). (2023). The contagion effect of coups in West Africa. Philadelphia: FPRI Publications.

Levitsky, S., & Way, L. A. (2010). Competitive authoritarianism: Hybrid regimes after the Cold War. Cambridge University Press.

O'Donnell, G. (1994). Delegative democracy. *Journal of Democracy*, 5(1), 55–69. <https://doi.org/10.1353/jod.1994.0010>

Poussou, G. A. (2022). Guinée – Les véritables raisons d'un coup d'État inique. Paris: Éditions L'Harmattan.

Sachs, J. D. (2001). Tropical underdevelopment. NBER Working Paper Series.

Sachs, J. D. (2005). The end of poverty: Economic possibilities for our time. New York: Penguin Press.

Sachs, J. D. (2011). The price of civilization: Reawakening American virtue and prosperity. New York: Random House.

Schmitter, P. (1999). Democracy and governance in the new millennium. In L.

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COMMUNITY POLICING FROM THE PERSPECTIVE OF PUBLIC ORDER DISTURBANCES – A CASE STUDY OF SARAJEVO CANTON (BIH)

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Abstract: *This paper emphasizes community policing with particular reference to law enforcement responses in cases of public order disturbances. Given that the subject matter pertains to misdemeanors, the study examines both the concept and legal basis of misdemeanors and breaches of public order, as well as the role of the police in preventive and repressive activities. The conducted research will compile a substantial body of data concerning public order violations in the territory of Sarajevo Canton during the period 2021–2023. The analysis of the collected data will focus on the offenders and their structural characteristics, with specific attention to gender, age composition, and, in particular, the categories of juveniles and repeat offenders. The findings of the research will be presented and processed in relation to the number of requests filed for the initiation of misdemeanor proceedings concerning public order violations in Sarajevo Canton, the number of misdemeanor warrants issued in the same jurisdiction, as well as the demographic distinctions of offenders in terms of age, gender, and recidivism.*

Keywords: *misdemeanor, public order, police, community, enforcement, prevention.*

Introduction

Given that this study explores community policing in the context of preventing and suppressing public order disturbances, it is necessary, at the very outset, to address the concept of the police. Historically, the notion of “police” has been employed with

diverse meanings, generally far broader than its contemporary understanding, primarily because its role and organizational structure evolved alongside transformations within the social reality itself. Thus, in fourteenth-century France—and, for an even longer period, in certain German and other regions—the term “police” denoted the totality of state activity or, in a narrower sense, a specifically regulated state order. In European states, the term “police” entered more widespread usage in the eighteenth century, when, in absolutist monarchies with more developed systems of state organization, it encompassed the entire apparatus of internal administration (all future administrative sectors with the exception of the military and foreign affairs) and domestic state affairs, excluding the army and the judiciary. Understandings of the concept of police have shifted not only in functional but also in organizational terms.

In the early stages of state development, the same institutions simultaneously exercised administrative, political, and judicial functions. With the progressive differentiation of state functions, however, specialized organs emerged to perform primarily policing tasks. For an extended period, police organization remained closely linked with military structures, from which it gradually separated into an independent service vested with its own means of coercion (weapons, detention facilities). The modern police organization—i.e., the Ministry of internal affairs in its contemporary sense—came into being only in the nineteenth century.

Community policing pursues a dual purpose: on the one hand, it seeks to anticipate problems and thus act preventively—though this by no means excludes, nor diminishes the necessity of, and the exercise of police coercive powers; on the other hand, community policing must remain permanently accessible to citizens, endeavoring to meet their expectations. To achieve this objective, police officers, particularly those directly engaged in community-based activities, must possess an intimate knowledge of the local environment and be recognizable to the residents they serve. Indeed, one of the fundamental elements of community policing is foot patrol within the assigned area, as it represents the most direct mode of connecting the police with the community. In this manner, the community police officer fosters an atmosphere of trust and respect, grounded in a sustained relationship with the citizenry.

Misdemeanors from the Perspective of Punishability

Misdemeanors and misdemeanor sanctions are prescribed exclusively for those forms of conduct that disturb or endanger public order, social discipline, and social values guaranteed and protected by the Constitution of Bosnia and Herzegovina, international law, and statutory provisions, whose protection cannot be ensured without the application of misdemeanor sanctions, and which are not safeguarded through criminal law coercion¹.

¹ Article 1 of the Law on Misdemeanors of the Federation of Bosnia and Herzegovina (“Official Gazette of the FBiH,” No. 63/14, and “Official Gazette of BiH,” Nos. 41/2022 – Decision of the Constitutional Court of BiH, and 68/2022 – Decision of the Constitutional Court of BiH) reads as follows: This

Misdemeanors constitute a distinct category of punishable acts. In certain respects, they resemble, yet in many aspects differ from, other forms of delinquency—namely, criminal offenses and economic violations. In general terms, a misdemeanor offense or delict constitutes an infringement of public order. However, since breaches of public order may also constitute criminal offenses, misdemeanors are distinguished by specific constitutive elements of the delict itself. The meaning and substance of the concept of a misdemeanor can thus be determined in relation to the protected legal interest under attack (public order), as well as by reference to its constitutive features².

The most common penalty imposed for misdemeanors is a monetary fine. The legal consequences and stigma associated with misdemeanors are significantly lesser than those of criminal offenses. Decisions are rendered both by administrative authorities and judicial bodies. Courts for misdemeanors, financed and organized by the state, primarily adjudicate traffic-related offenses.

Misdemeanor law is closely intertwined with both criminal and administrative law, as evidenced by its former designation as administrative penal law. Up until the seventeenth century, misdemeanor law formed an integral part of criminal law; misdemeanors were prescribed and sanctioned under the provisions of criminal statutes³. Later, as the state began to assume a wide array of functions not exclusively linked to the exercise of sovereign authority, but also to the management of economic resources, misdemeanors were detached from the domain of criminal law and incorporated into administrative law. Unlike criminal offenses, adjudicated by the judiciary, misdemeanors were, in this phase, sanctioned by the administrative apparatus.

Today, misdemeanor law constitutes an autonomous branch of the legal system, with its norms codified in general legal acts enacted by the legislative and administrative authorities, while competence to adjudicate upon misdemeanors has been conferred on judicial organs. The subject matter of this branch of law consists of misdemeanors as a specific category of public-law delicts.

Misdemeanors against public order are acts that unlawfully disrupt the peace, work, or ordinary way of life of citizens; that create unrest, unease, or anxiety; that obstruct the movement of citizens in streets or other public spaces; that interfere with the exercise of their rights and duties; that offend public morals; that obstruct the lawful activities of state organs and officials; that endanger the general safety of persons and property; that insult public authorities; or that otherwise disturb public order and peace,

Law defines: the concept of a misdemeanor, misdemeanor sanctions, proceedings involving minors, statutes of limitations, misdemeanor proceedings, misdemeanor orders, requests for initiation of misdemeanor proceedings, oral hearings, decisions on misdemeanors, appeals, reinstatement to previous procedural stages, repetition of proceedings, records and expungement of sanctions, enforcement of penalties, as well as other matters of significance concerning misdemeanors within the territory of the Federation of Bosnia and Herzegovina (hereinafter: the Federation).

² Bošković, M. (2009). *Pravo privrednih prestupa i prekršajno pravo*. Novi Sad: Srpski kulturni krug, str. 21.

³ Skakavac, T. (2017.) *Problematika prekršaja protiv javnog reda i mira na području Policijske uprave Novi Sad - stanje i karakteristike*, Civitas, vol. 7(2), 75-87., str. 67.

as defined by the Law on Misdemeanors against Public Order and Peace⁴.

Among the various statutes prescribing misdemeanors is the Law on Misdemeanors against Public Order and Peace of Sarajevo Canton, which specifically regulates such offenses⁵. Theoretically, public order and peace represent the established network of relations among citizens, in conformity with both customary and legally prescribed rules of conduct. It embodies a state of harmony and absence of conflict in interpersonal relations, ensured through lawful conduct in public spaces and the activities of institutions and organizations in public life. Public order and peace thus constitute an indispensable precondition for guaranteeing equal conditions for the exercise of citizens' rights to personal and property security, tranquility, private life, the preservation of public morals, and human dignity⁶.

These misdemeanors, by virtue of their frequency as well as the manner of their commission, exert a significant impact upon the overall state of public security and upon citizens' perceptions of order and peace in their communities. The purpose of the Law on Misdemeanors against Public Order and Peace is not the protection of individual rights of specifically designated persons, but rather the safeguarding of the public interest as such.

Pursuant to the Law on Misdemeanors, a misdemeanor is defined as an unlawful act that has been designated as such by law or another regulation of a competent authority, and for which a misdemeanor sanction has been prescribed⁷. The theoretical definition of a misdemeanor, however, adopts a broader perspective, encapsulating the following general elements:

- a) a misdemeanor is an act committed by a natural or legal person, carrying consequences of either concrete or abstract danger;
- b) a misdemeanor constitutes conduct that endangers public order;
- c) a misdemeanor is an unlawful act; and

4 Article 1 of the Law on Misdemeanors of the FBiH ("Official Gazette of the FBiH," No. 63/14, and "Official Gazette of BiH," Nos. 41/2022 – Decision of the Constitutional Court of BiH, and 68/2022 – Decision of the Constitutional Court of BiH) reads as follows: This Law defines: misdemeanor, misdemeanor sanctions, proceedings involving minors, statutes of limitations, misdemeanor proceedings, misdemeanor order, request for initiation of misdemeanor proceedings, oral hearing, decision on a misdemeanor, appeal, reinstatement to the previous stage, repetition of proceedings, recordkeeping and expungement of sanctions, enforcement of penalties, as well as other matters of significance for misdemeanors within the territory of the Federation of Bosnia and Herzegovina (hereinafter: the Federation).

5 This Law regulates public order and peace within the territory of the Canton of Sarajevo (hereinafter: the Canton), establishes misdemeanors against public order and peace and the misdemeanor sanctions imposed on perpetrators of such offenses, the procedure for organizing torchlight processions, fireworks, and similar events, as well as the procedure for collecting voluntary contributions from citizens, state authorities, enterprises, and other legal entities. (Article 1 of the Law on Misdemeanors Against Public Order and Peace, "Official Gazette of the Canton of Sarajevo," Nos. 18/07, 7/08, and 34/20)

6 Skakavac, T. (2017). Problematika prekršaja protiv javnog reda i mira na području Policijske uprave Novi Sad - stanje i karakteristike, Civitas, vol. 7(2), 75-87.

7 Bošković, M., Skakavac, T. (2017). Prekršajno pravo. Novi Sad: Fakultet za pravne i poslovne studije dr Lazar Vrkatić, str. 34.

d) a misdemeanor is an act prescribed by law or another regulation of a competent authority⁸.

Public order and peace, as the protected legal interest, in the sense of the statutory definition, represent a state of harmony in interpersonal relations arising from lawful conduct in public spaces and the activities of institutions and organizations in public life, undertaken to ensure equal conditions for the realization of human and minority rights and freedoms guaranteed by the Constitution of Bosnia and Herzegovina.

A public place is understood as any space accessible to an indefinite number of persons whose identities are not predetermined, either under the same conditions or without any special requirements. Misdemeanors against public order and peace thus constitute unlawful acts, defined by statute, which, when committed in public spaces, disturb or endanger public order and peace, generate public unrest, jeopardize citizens' security, obstruct freedom of movement in public areas, hinder the exercise of their rights and freedoms, offend public morals, threaten the general safety of property, insult officials, or obstruct the execution of lawful measures and actions of public officials, thereby disturbing public order and peace in other ways as well⁹.

Theoretical Conceptualization of Public Order and Peace

The legal literature abounds in definitions of public order and peace, in which the essence of the concept is implicitly articulated. Below are several definitions in which public order and peace are defined as follows:

-“a harmonized state of interpersonal relations among citizens, arising from their conduct in public spaces and from the activities of institutions and organizations in public life, aimed at ensuring equal conditions for the realization of citizens' rights to personal and property security, tranquility, private life, freedom of movement, the preservation of public morals and human dignity, and the protection of the rights of minors¹⁰;”

-“a specific system of conduct and social discipline in public interactions and relations, grounded in normal standards and modes of behavior and social intercourse, which serve to protect the ordinary life, work, peace, and related rights and freedoms of citizens, and, through this, to secure the normal and harmonized development of public life and interactions among people¹¹;”

-“interpersonal relations among citizens that conform to rules of conduct concerning the normal way of life and social discipline. Acts and behaviors that disturb the ordinary way of life of citizens, endanger their security, obstruct the normal movement of persons in public spaces, generate unrest among the populace, undermine

⁸ Bošković, M. (2009). *Pravo privrednih prestupa i prekršajno pravo*. Novi Sad: Srpski kulturni krug, str. 67.

⁹ Skakavac, T. (2017.) *Problematika prekršaja protiv javnog reda i mira na području Policijske uprave Novi Sad - stanje i karakteristike*, Civitas, vol. 7(2), 75-87., str. 68.

¹⁰ Milosavljević, B. (1994). *Uvod u policijske nauke*. Beograd: Policijska akademija., str. 87.

¹¹ Grupa autora (1975). *Politička enciklopedija*. Beograd: Savremena administracija., str. 384.

public morals, disrupt the use of public facilities and official or other buildings, interfere with the performance of official duties by state authorities or legal and other entities vested with public powers, or otherwise, contrary to legal norms, disturb social discipline and the peace of citizens, are deemed misdemeanors against public order and peace¹²."

From the foregoing definitions, it follows that public order and peace should be understood as a harmonized state of relations among citizens, arising from their conduct in public places and from the functioning of state and other institutions in public life, with the objective of ensuring equal conditions of work and life for all. In such a context, actions and behaviors are absent which unlawfully disrupt peace, work, and the normal way of life of citizens; which generate unrest, discontent, or anxiety; which obstruct the free movement of individuals in streets and other public spaces; which interfere with the exercise of their rights and duties; which offend public morals; which obstruct the execution of lawful measures by state authorities and officials; which endanger the general security of persons and property; which disparage public institutions; or which otherwise disturb the public order and peace of the citizenry¹³.

General Characteristics and Issues of Misdemeanors against Public Order and Peace

In the field of misdemeanor law in Bosnia and Herzegovina, a large number of statutes prescribing misdemeanors are currently in force. Indeed, many laws include in their final or penal provisions the regulation of misdemeanor liability for breaches of specific statutory norms. By establishing misdemeanors as lesser delicts, compliance with the majority of statutory provisions in Bosnia and Herzegovina is thereby secured.

The conceptual definition of misdemeanors against public order and peace encompasses a broad spectrum of unacceptable behavior that unlawfully disrupts the peace, work, and normal way of life of citizens; that generates discontent or unease; that obstructs citizens' movement on streets and other public places; that interferes with the exercise of their rights and duties; that offends public morals; that obstructs or disregards lawful measures of state or other competent authorities, or disparages such measures; that endangers the general security of persons and property; that insults state authorities, enterprises, or other legal persons; or that otherwise disturbs the public order and peace of citizens¹⁴.

Misdemeanors, in their constitutive elements, bear certain similarities to criminal offenses, yet the legal nature of misdemeanors as punishable acts differs fundamentally from that of criminal offenses, leading to substantial distinctions between the two¹⁵. The first distinction lies in the different jurisdiction of the authorities conducting the

12 Grupa autora (1989). Pravna enciklopedija. Beograd: Savremena administracija., str. 565.

13 Ivanda, S. (2006). Javni red i mir u statutima srednjovjekovnih hrvatskih gradova, Pravni vjesnik, 23(3-4), 77-96., str. 79.

14 Article 2 of the Law on Misdemeanors Against Public Order and Peace ("Official Gazette of the Canton of Sarajevo," Nos. 18/07, 7/08, and 34/20).

15 Krapac, D. (2012). Kazneno procesno pravo.. Zagreb: Narodne novine dd., str. 50.

proceedings, while the second concerns the precision of regulation and the procedural rules applicable before these authorities¹⁶.

A characteristic feature of misdemeanors against public order and peace, for most such offenses, is their commission in a public place. However, under the Law on Misdemeanors against Public Order and Peace (Zakon o prekršajima protiv javnog reda i mira, ZpPJRM), the notion of a “public place” is not explicitly defined¹⁷. A misdemeanor is nevertheless deemed to have been committed in a public place even when its constitutive elements are realized in a location not formally designated as such, provided that the place is visible or audible from a public space, or where its consequences manifest in a public place¹⁸.

The boundary between misdemeanor-law protection and criminal-law protection can best be understood through the definitions of a misdemeanor and of a criminal offense. The Law on Misdemeanors defines a misdemeanor in Article 2 as follows: “A misdemeanor represents the violation of regulations, public order, or other social values not protected by criminal laws or other statutes defining criminal offenses, as well as the violation of other regulations prescribing the constitutive elements of a misdemeanor and stipulating sanctions for such conduct.¹⁹” By contrast, the Criminal Code of Bosnia and Herzegovina establishes the foundation and limits of criminal law coercion in Article 2: “Criminal offenses and criminal sanctions shall be prescribed only for those forms of conduct that endanger or violate personal freedoms and human rights, as well as other rights and social values guaranteed and protected by the Constitution of Bosnia and Herzegovina and international law, where such protection could not otherwise be achieved without recourse to criminal law coercion.²⁰”

The Law on Misdemeanors further defines a misdemeanor as an unlawful act that has been designated as such by law or another regulation of a competent authority, and for which a misdemeanor sanction is prescribed. The theoretical definition of a misdemeanor, however, adopts a broader perspective, distilled into the following general elements²¹:

16 Ibid

17 Juras, D., Marenić, S., Doljanin, M. (2023). Prekršaji protiv javnog reda i mira na području policijske uprave splitsko-dalmatinske, Zbornik radova Veleučilišta u Šibeniku, Vol. 17(3-4), 125-139., str. 126.

18 Filipović, H. (2014). Kolizija prekršaja protiv javnog reda i mira, tučnjava, svada i vika s drskim i nepristojnim načinom vrijedanja građana kojima se narušava njihov mir. Kriminalistička teorija i praksa, 1(1), 29-54., str. 30.

19 Article 2 of the Law on Misdemeanors (“Official Gazette of the FBiH,” No. 63/2014, and “Official Gazette of BiH,” Nos. 41/2022 – Decision of the Constitutional Court of BiH, and 68/2022 – Decision of the Constitutional Court of BiH).

20 Article 2 of the Criminal Code of BiH (“Official Gazette of Bosnia and Herzegovina,” Nos. 3/03, 32/03, 37/03, 54/04, 61/04, 30/05, 53/06, 55/06, 8/10, 47/14, 22/15, 40/15, 35/18, 46/21, 31/23, 47/23).

21 Bošković, M. (2009). Pravo privrednih prestupa i prekršajno pravo. Novi Sad: Srpski kulturni krug., str. 78.

- a) a misdemeanor is an act committed by a natural or legal person, carrying consequences of either concrete or abstract danger;
- b) a misdemeanor constitutes conduct that endangers public order;
- c) a misdemeanor is an unlawful act; and
- d) a misdemeanor is an act prescribed by law or another regulation of a competent authority.

Public order and peace, as the object of protection in the statutory sense, represent a harmonized state of relations among citizens, arising from their lawful conduct in public spaces and from the functioning of institutions and organizations in public life, with the aim of ensuring equal conditions for the exercise of human and minority rights and freedoms guaranteed by the Constitution of Bosnia and Herzegovina.

The Conceptual Definition and the Role of Community Policing as the Cell of Society

The notion of the police, the conditions of its emergence, its developmental trajectory, and its various organizational forms are inherently conditioned by the evolution of human society. Its roots can be traced back even prior to the existence of the state, within rudimentary communities. It is well known that before the advent of the state—and consequently before the establishment of political and legal norms—all societies possessed a simple form of integration. The fundamental integrative bond within small, homogeneous primordial communities was grounded in presumed permanent relationships, such that the conduct of every individual was subject to constant observation. This form of simple community represented a social relationship within strictly limited boundaries²².

In these communities—commonly described as segmentary societies—kinship constituted the primary structural framework of social organization, simultaneously performing the function of moral regulation over the entire communal life, encompassing property relations, solidarity in the face of external threats, military organization, productive labor, religious functions, and more. The evolution and differentiation of society, the division of labor, increasing urbanization, and, above all, the diversification of individual and communal interests, gradually transferred many of these early regulatory functions to new bearers of authority. Social institutions emerged as the principal holders of more complex functions²³.

Indeed, in all small, homogeneous communities, regulated relations had considerable importance in the economic sphere, particularly in their protective role—where the fear of blood vengeance constituted a powerful factor of general prevention against violence—as well as in healthcare, education, and the provision of social

22 Šuperina, M., Dujmović, Z. (2010). Policijske ovlasti i ljudska prava i slobode, Knjiga 1 i 2.. Zagreb: Laserplus., str. 45.

23 Masleša, R. (1999). Policija - organizacija i funkcioniranje u demokratskom društvu. Sarajevo: Svetlost., str. 6.

security. As these small communities, with their structures and rudimentary systems of social control, began to transform and evolve into larger groupings, the demand for new forms of regulation and protection—policing in the broader sense—became increasingly pronounced²⁴.

This evolutionary trajectory of development, alongside the dissolution of certain communities and the antagonisms arising from the fragmentation of individuals during the developmental process of small communities, constituted the essential rationale for the emergence of a new protective mechanism. In this sense, the community—since the earliest times and later, increasingly, through its institutions and systems—appeared as the primary bearer of regulation, exercising systemic and legitimate influence on human conduct according to predetermined criteria established within that very community.

This process was paralleled by the historical development of policing, which assumed various forms of activity under different historically determined circumstances²⁵. The police are, indeed, one of the oldest services in human society, that is, within the state. It can therefore be stated that, in the course of historical development, it is virtually impossible to identify an instance of the formation and structuring of communities that endured over longer periods of time without displaying a need for some form of policing activity. The history of policing demonstrates that it is indisputably one of the most ancient services within any society or state.

When the police are understood as an elementary form of social control, scholars frequently emphasize that the police as an institution predate the very emergence of the state itself. In contemporary society, four fundamental functions of the police may be distinguished: the administrative function, the criminal function, the misdemeanor function, and the normative function²⁶.

The Philosophical Dimension of Community Policing and Its Operational Elements

The traditional policing model rests upon the assumption that the fundamental task of the police in society is the maintenance of order and the detection and resolution of criminal offences. The consequence of such an assumption is a bureaucratic organization oriented primarily toward law enforcement.

Within such an organization, the ultimate outcomes and the quality of police work are measured predominantly through quantifiable indicators, such as the number of arrests and detected criminal offences, the clearance rate of cases, the rise or fall in crime statistics, the number of different police measures carried out (identity checks, raids, ambushes, etc.), and the speed of response to calls. This philosophy translates into

24 Roberg, R., Crank, J., Kuykendall, J. (2004). *Policija i društvo*. Sarajevo: Office of Public Affairs of United States of America., str. 11.

25 Masleša, R. (1999). *Policija - organizacija i funkcioniranje u demokratskom društvu*. Sarajevo: Svjetlost., str. 6.

26 Bezdrob, E. (2019). *Policjsko pravo u Bosni i Hercegovini*. Društvena i tehnička istraživanja broj 2., 86-106., str. 92.

a reactive police force, one largely detached from the everyday problems of individuals within a given community. Ultimately, such a police service becomes distanced from the very citizens it ought to serve.

When the ineffectiveness of such a traditionally structured system reaches a critical threshold, police leadership begins to seek a new philosophy and innovative methods of carrying out policing duties.

At the philosophical level, community policing consists of specific elements grounded in the community, which distinguish it from the traditional police model that is based exclusively on the policing profession while neglecting the broader social context in which that profession operates.

The essence of the philosophy of community policing encompasses²⁷:

- the expansion of the police function within society, with a particular focus on the community,

- encouragement from citizens,
- cooperative work,
- the establishment of mutual trust,
- the redistribution of power,
- creativity.

Community policing represents not merely a set of tasks, but a philosophy, a professional mindset of police officers. It encompasses the entire police organization, engaging every officer across all spheres of police work.

The basic postulates for establishing community policing are as follows²⁸:

- Presence, contact, and communication – foot patrols enable officers to become better acquainted with the population and the territory, thereby strengthening their ties with the community.

- Problem-solving – the police aim to find sustainable solutions to problems as soon as they emerge, with the support of citizens and partner services.

- Urban engagement – in urban areas, police officers must maintain even stronger connections with residents and workers. The zone of responsibility is defined by the jurisdiction of the local police station. Those tasked with maintaining these relationships must have the necessary resources to propose solutions tailored to the specific problem.

- Transparency (openness) – the police establish objectives and measures in accordance with the law and communicate them to citizens through public media.

In practice, community policing specifically entails²⁹:

- proactive and preventive police work,

27 Pušeljić, M., Magušić, F., Nađ, I. (2008). Organizacija i funkcioniranje policije. Zagreb: MUP HR., str. 45.

28 Ibid

29 Police Support Agency of Bosnia and Herzegovina. (n.d.). Community Policing in Bosnia and Herzegovina: Manual. Available at: http://www.psa.gov.ba/Popisi_i_dokumenti/Propisi/Konvencije/PRIRUCNIK%20-%20Rad%20policije%20u%20zajednici%20u%20BiH.pdf (Accessed: 7 August 2024).

- open communication with the public,
- the engagement of specially trained community police officers who, within their precincts, cultivate and maintain contacts with citizens, businesses, and institutions,
- the implementation of “security marketing” projects (initiatives in which the police cooperate with other institutions or individuals to enhance security and the perception of safety over the long term),
- all other measures that facilitate, support, and improve community policing.

Regardless of the manner in which community policing is organized, it is of crucial importance that each police officer recognizes that partnership in problem-solving fosters trust between the community and the police as a conscientious partner in providing security. Conversely, by identifying problems at their inception, both time and resources that the police would otherwise expend on addressing them can be conserved. Community policing, with all its constituent elements, demands a great deal from police officers, but at the same time affords them greater creativity and autonomy in their work³⁰.

The implementation of community policing in the aforementioned domains strengthens both the sense of security and citizens' trust, which, in turn, facilitates and accelerates police work.

The strategy of community policing represents a comprehensive process of transformation within the police, in the narrow sense, and within the Ministry of Internal Affairs, in the broader sense, as a continuation of police reform. The ultimate aim of this process is the transition from the traditional policing model to the model of community policing, and the establishment of an organizational framework aligned with Western European standards³¹.

In order to achieve this objective, however, reforms within the police alone are insufficient; changes within society at large are also indispensable. As the classical architects of the first democratic system reminded us: if men were angels, no government would be necessary. Since this is not the case, the “social contract” was established, whereby each individual relinquishes a portion of personal freedom that would otherwise exist in the absence of authority, in exchange for security. Security, as a public good, is thus guaranteed by the state. By choosing to live within an organized society, we implicitly accept a definition of freedom that adjusts our rights in accordance with the rights and freedoms of others.

The police, as an institution, confront problems that must be resolved immediately. As an instrument of formal social control, it has been vested by the state with the authority to detect and suppress crime and unlawful conduct. It is important, however,

30 Pušeljić, M., Magušić, F., Nadž, I. (2008). Organizacija i funkcioniranje policije. Zagreb: MUP HR., str. 46.

31 Police Support Agency of Bosnia and Herzegovina. (n.d.). Community Policing in Bosnia and Herzegovina: Manual. Available at: http://www.psa.gov.ba/Popisi_i_dokumenti/Propisi/Konvencije/PRIRUCNIK%20-%20Rad%20policije%20u%20zajednici%20u%20BiH.pdf (Accessed: 7 August 2024).

to emphasize that the police neither create nor interpret societal rules, nor do they legislate; they are solely empowered to enforce the law. Scholars, therefore, highlight the role of the police in minimizing the use of force and violence within society, as force is exercised exclusively against those who disrupt public order—that is, against individuals who have maladapted to social life in an unlawful manner.

The Work of the Uniformed Police

Any police force aspiring to transform itself into a genuine public service must determine the focal point of its reforms. Considering that citizens most frequently interact with members of the uniformed police, and that, as the “users of police services,” they receive the majority of such services from uniformed officers, it follows logically that the most extensive—and indeed the most significant—changes must necessarily encompass the structure of the uniformed police. In this regard, it is far from irrelevant that the uniformed police constitutes the largest segment of the overall police force, while simultaneously occupying, in terms of rank, professional qualifications, and remuneration, the lowest position within the hierarchical structure of the police organization. This circumstance renders the implementation of substantive qualitative reforms particularly arduous. More importantly, however, is the fact that citizens are able to perceive positive changes within the uniformed police—however minimal and even if only reflected at the level of conduct—most immediately, which in turn fosters greater public acceptance of the police and facilitates the gradual development of reciprocal and interactive relationships.

Police management, both domestically and internationally, frequently emphasizes the uniformed police as the very foundation of the police organization. Within our own practice over the past decade, the term “basic” or “fundamental” police has taken root, denoting, in the narrower sense, those engaged in beat and patrol duties, and, in the broader sense, the entire uniformed branch. Admittedly, the term “fundamental” implies the foundation of a system, though in practice this has not proven entirely accurate. With the evolution of police organizations and the persistent insistence on enhancing efficiency, specialization has become an omnipresent process, leading to the mass transfer of more competent and experienced officers from the basic police units into other branches and organizational components. An additional problem lies in the fact that the position of the police officer (whether as a beat constable or patrol officer) has, under existing subordinate legislation, been classified within the lowest police rank, without any flexible system of advancement in rank while remaining within the same post. Although the police is formally defined as a career-based and hierarchically structured service, the reality is that the ranks of the basic police are primarily filled by young officers at the outset of their careers, who often regard this assignment as temporary and transitional, or by less capable individuals unsuited for other duties, including, in certain cases, those transferred into the basic police as a form of “disciplinary reassignment” from other branches.

The existing regulatory framework and entrenched practices—particularly the Instruction on Work within Territorial Sectors and the shift-based system of police work, both in force for over three decades with only minor “cosmetic” alterations—have likewise become restrictive factors impeding the qualitative improvement of uniformed police work³².

The application of modern technologies within policing, especially communication systems and means of transportation, though undeniably beneficial in many respects, has not been fully utilized. Over the past two decades, the patrol vehicle has become the primary tool of policing, with a concomitant decline in the number of foot patrols. While this has considerably increased the speed of police response to incidents, it has simultaneously entrenched the “call-and-response” model of policing, whereby both citizens and officers alike have grown accustomed to interaction being initiated only upon request. In urban environments—most heavily burdened by crime and associated challenges—this development has resulted in a marked decline in both the quantity and quality of communication between police and citizens, contributing to a sense of alienation³³.

In such circumstances, a cause-and-effect dynamic has emerged: the majority of citizens now expect the police to be present solely upon request, while police institutions, in turn, regard their reactive response to calls as one of the most important aspects of their operational mandate. Response time has gradually been elevated as the principal, and almost exclusive, criterion of efficiency within the basic police. At the same time, public dissatisfaction has grown, for citizens’ subjective sense of safety derives less from the knowledge that police will arrive promptly at the scene of an incident, and more from the assurance that officers are visible and present—that is, nearby and accessible at all times.

When analyzing the work of the uniformed police, it is essential to clarify and comprehend the distinction between reactive and proactive policing. Reactive policing entails intervention following a citizen’s call, which, regardless of the speed of response, presupposes that an incident has already occurred³⁴. Proactive policing, by contrast, entails the presence of police officers at locations and times where their presence is most needed, enabling them to act preventively against potential offenders while simultaneously engendering in citizens a sense of security.

Preventive approaches to social problems, as well as the search for long-term solutions, frequently necessitate the development of projects and strategic plans.

32 Masleša, R. (1999). *Policija, organizacija i funkcioniranje u demokratskom društvu*. Sarajevo: Svetlost., str. 66.

33 Police Support Agency of Bosnia and Herzegovina. (n.d.). *Community Policing in Bosnia and Herzegovina: Manual*. Available at: http://www.psa.gov.ba/Popisi_i_dokumenti/Propisi/Konvencije/PRIRUCNIK%20-%20Rad%20policije%20u%20zajednici%20u%20BiH.pdf (Accessed: 7 August 2024).

34 Ministry of the Interior of the Republic of Croatia. (n.d.). *Community Policing Strategy in the Republic of Croatia*. Available at: <https://policija.gov.hr/policija-u-zajednici-453/453> (Accessed: 7 August 2024).

Once specific problem areas and their underlying causes are identified, the police rarely possess the capacity to independently design conceptual solutions or prescribe appropriate measures. Instead, progress is usually achieved through cooperation and partnership with governmental institutions, non-governmental organizations, other agencies, and citizens themselves³⁵.

The reactive model of policing, which refrains from fostering community partnerships, is characteristic of the traditional paradigm of police work. Such an approach has contributed to the perception of police officers as outsiders. In contrast, community policing entails the direct involvement of “ordinary” citizens in policing operations, positioning them as partners in the pursuit of a common objective—namely, the creation of safer and more secure environments in which citizens live and work³⁶.

Case Study: Indicators and Trends in Public Order Violations in the Sarajevo Canton

Overview of the number of submitted requests for initiating misdemeanor proceedings for violations of public order and peace in the Sarajevo Canton, and overview of the number of issued misdemeanor orders in the Sarajevo Canton in the course of 2023

In the course of 2023, a total of 4,645 misdemeanors in the area of public order and peace were recorded (298, or 6%, fewer than in the previous year). For the commission of these misdemeanors, 4,879 individuals were reported (337, or 6.5%, fewer), of whom 1,151 were repeat offenders (109, or 8.6%, fewer).

For violations of public order and peace, 4,003 misdemeanor orders were issued, and 629 requests for the initiation of misdemeanor proceedings were submitted. Out of the total, 4,324 misdemeanors (93.1%) fell under the provisions of the Law on Misdemeanors against Public Order and Peace, while 321 misdemeanors (6.9%) were established under the municipal councils’ Decisions on Public Order and Peace³⁷.

35 Hadžović, D., Kržalić, A., Kovačević, A. (2013). Pregled stanja u oblasti policije u Bosni i Hercegovini, Sarajevo: Centar za sigurnosne studije., str. 78

36 Trojanowicz, R., Bucqueroux, B. 1991. Community policing and the challenge of diversity. Michigan: Michigan State University., str. 14

37 Ministry of Internal Affairs of Sarajevo Canton. (2023). Report on the Work of the Police Administration of the Ministry of Internal Affairs of Sarajevo Canton 2022. Sarajevo: MUP KS. Available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_mupks_-_2022.godina.pdf (Accessed: 10 August 2024).

Table 1. Tabular Overview of Recorded Misdemeanors in the Area of Public Order and Peace for 2023/2022

Year	PU Stari Grad	PU Centar	PU Novo Sarajevo	PU Novi Grad	PU Ilidža	PU Hadžići & Trnovo	PU Vogošća	PU Ilijas	JZS	Total
2023	562	1,356	660	858	482	204	217	144	162	4,645
2022	633	1,199	767	881	544	211	287	212	209	4,943
+/- %	-71 or 11.2%	+157 or 13.1%	-107 or 13.9%	-23 or 2.6%	-62 or 11.4%	-7 or 3.3%	-70 or 24.4%	-68 or 32.1%	-47 or 22.5%	-298 or 6%

Source: *Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2023, available at: <https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2024-03/Izvje%C5%A1taj%20o%20radu%20UP%20-%202023..pdf> (10.08.2024.)*

From the tabular overview it is evident that the highest number of misdemeanors was recorded in PU Centar (1,356 or 29.2% of the total), while the lowest number was recorded in PU Ilijas (144 or 3.1%). During 2023, compared to 2022, a reduction in the number of recorded misdemeanors was registered in all police administrations, with the exception of PU Centar, where an increase of 157 misdemeanors, or 13.1%, was observed.

Table 2. Tabular Overview of the Structure of Public Order and Peace Misdemeanors for 2023/2022

Structure of Misdemeanors	2023	2022	Comparison
Total orders and requests	4,645	4,943	-298 or 6%
Total offenders	4,879	5,216	-337 or 6.5%
Misdemeanors under the Law on Misdemeanors against Public Order and Peace	4,324	4,598	-274 or 6%
Misdemeanors under the Municipal Councils' Decisions on Public Order and Peace	321	345	-24 or 7%

– Quarrelling, shouting, indecent behavior	141	179	-38 or 21.2%
– Fights	352	337	+15 or 4.5%
– Particularly insolent behavior	504	496	+8 or 1.6%
– Refusal of orders and insulting police officers	305	312	-7 or 2.2%
– Consumption of narcotics in public places	522	268	+254 or 94.8%
– Unauthorized use of weapons	9	4	+5 or 125%
– Setting off firecrackers	25	19	+6 or 31.6%
– Begging	1,484	2,111	-627 or 29.7%
– Other misdemeanors under the Law on Misdemeanors against Public Order and Peace	982	872	+110 or 12.6%

Source: Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2023, available at: <https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2024-03/Izvje%C5%A1taj%20o%20radu%20UP%20-%202023..pdf> (10.08.2024).

From the tabular overview, it is evident that in the course of 2023, compared to the previous year, an increase was recorded in the following categories of misdemeanors³⁸:

- consumption of narcotics in public places by 254 or 94.8%,
- other misdemeanors by 110 or 12.6%,
- particularly insolent behavior by eight or 1.6%,
- fights by 15 or 4.5%,
- setting off firecrackers by six or 31.6%, and
- unauthorized use of weapons by five or 125%.

38 Ibid

Conversely, a decrease was recorded in:

- begging by 627 or 29.7%,
- quarrelling, shouting, and indecent behavior by 38 or 21.2%,
- misdemeanors regulated by municipal councils' decisions by 24 or 7%, and
- refusal of orders and insulting police officers by seven or 2.2%.

According to the place of commission, the largest number of misdemeanors were recorded on streets, squares, roads, and other open spaces—4,341 in total. Significantly fewer were committed in other locations: 193, in hospitality establishments: 88, in schools and schoolyards: 11, in commercial and craft shops: seven, in sports stadiums and arenas: four, and in public transport vehicles: one misdemeanor.

Table 3. Tabular Overview of the Structure of Public Order and Peace Misdemeanors by Place of Commission for 2023/2022

Place of Commission	2023	2022	±	%
Streets, squares, roads, and other open spaces	4,341	4,604	-263	5.7%
Hospitality establishments	88	89	-1	1.1%
Sports stadiums and arenas	4	11	-7	63.6%
Public transport vehicles	1	5	-4	80%
Schools and schoolyards	11	19	-8	42.1%
Commercial and craft shops	7	13	-6	46.2%
Other locations	193	202	-9	4.6%
Total	4,645	4,943	-298	6%

Source: Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2023, available at: <https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2024-03/Izvje%C5%A1taj%20o%20radu%20UP%20-%202023..pdf> (10.08.2024).

Compared to 2022, the number of recorded misdemeanors decreased across all places of commission. Within the territory of the Sarajevo Canton in 2023, a total of

3,041 public gatherings were held (10 more, or 0.3%). Police officers of the Police Administration conducted planned activities to ensure the safe organization of public gatherings and carried out 741 counter-sabotage (KDZ) security measures³⁹.

Overview for 2022

In 2022, a total of 4,943 misdemeanors in the field of public order and peace were recorded (4,332 or 46.7% fewer compared to 2021). For the commission of these misdemeanors, 5,216 individuals were reported (4,289 or 45.1% fewer), of whom 1,260 were repeat offenders.

For committed misdemeanors in the field of public order and peace, 4,129 misdemeanor orders were issued and 814 requests for the initiation of misdemeanor proceedings were submitted. Out of these, 4,598 misdemeanors (93%) fell under the Law on Misdemeanors against Public Order and Peace, while 345 misdemeanors (7%) were regulated by the Municipal Councils' Decisions on Public Order and Peace. During the disturbances of public order and peace in 2022, there were no cases of serious injury (the same as in 2021), while 125 individuals (42 more than in the previous year) sustained minor injuries.

Table 4. Tabular Overview of the Structure of Public Order and Peace Misdemeanors for 2022/2021

Structure of Misdemeanors	2022	2021	Comparison
Total orders and requests	4,943	9,275	-4,332 or 46.7%
Total offenders	5,216	9,505	-4,289 or 45.1%
Misdemeanors under the Law on Misdemeanors against Public Order and Peace	4,598	8,889	-4,291 or 48.3%
– Fights	337	325	+12 or 3.7%
– Particularly insolent behavior	496	470	+26 or 5.5%
– Refusal of orders and insulting police officers	312	1,027	-715 or 69.6%
– Quarrelling, shouting, indecent behavior	179	157	+22 or 14%
– Consumption of narcotics in public places	268	173	+95 or 54.9%

39 Ibid

– Unauthorized use of weapons	4	9	-5 or 55.5%
– Setting off firecrackers	19	12	+7 or 58.3%
– Begging	2,111	1,571	+540 or 34.4%
– Other misdemeanors under the Law on Misdemeanors against Public Order and Peace	872	5,145	-4,273 or 83%
Misdemeanors under the Municipal Councils' Decisions on Public Order and Peace	345	386	-41 or 10.6%

Source: Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2022, available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_up_mupks_-_2022.godina.pdf (10.08.2024).

From the tabular overview, it is evident that during 2022, compared to the previous year, the following categories of misdemeanors increased⁴⁰:

- begging by 540 or 34.4%,
- consumption of narcotics in public places by 95 or 54.9%,
- particularly insolent behavior by 26 or 5.5%,
- quarrelling, shouting, and indecent behavior by 22 or 14%,
- fights by 12 or 3.7%, and
- setting off firecrackers by seven or 58.3%.

Conversely, the following categories decreased:

- other misdemeanors by 4,273 or 83%,
- refusal of orders and insulting police officers by 715 or 69.6%,
- misdemeanors regulated by municipal councils' decisions by 41 or 10.6%, and
- unauthorized use of weapons by five or 55.5%.

According to the place of commission, the highest number of misdemeanors was recorded on streets and other open spaces—4,604 in total. Significantly fewer were recorded in hospitality establishments: 89, in schools and schoolyards: 19, in commercial and craft shops: 13, in sports stadiums and arenas: 11, in public transport vehicles: five, and in other locations: 202 misdemeanors.

⁴⁰ Ministry of Internal Affairs of Sarajevo Canton. (2022). Report on the Work of the Police Administration of the Ministry of Internal Affairs of Sarajevo Canton 2021. Sarajevo: MUP KS. Available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_mupks_-_2021.godina.pdf (Accessed: 10 August 2024).

Table 5. Tabular Overview of the Structure of Public Order and Peace Misdemeanors by Place of Commission for 2022/2021

Place of Commission	2022	2021	Comparison
Streets and other open spaces	4,604	8,921	-4,317 or 48.4%
Hospitality establishments	89	68	+21 or 30.9%
Sports stadiums and arenas	11	6	+5 or 83.3%
Public transport vehicles	5	4	+1 or 25%
Schools and schoolyards	19	—	+19
Commercial and craft shops	13	77	-64 or 83.1%
Other places	202	199	+3 or 1.5%
Total	4,943	9,275	-4,332 or 46.7%

Source: Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2022, available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_mupks_-_2022.godina.pdf (10.08.2024).

Compared to 2021, the number of misdemeanors recorded decreased on streets and other open spaces by 4,317 and in commercial and craft shops by 64, while an increase was registered in hospitality establishments by 21, in schools and schoolyards by 19, in sports stadiums and arenas by five, in other places by three, and in public transport vehicles by one misdemeanor.

Within the territory of the Sarajevo Canton, a total of 3,031 public gatherings were held in 2022 (902 or 42.4% more compared to 2021). Police officers of the Police Administration conducted planned activities to ensure the safe organization of public gatherings and carried out 639 security operations (technical protection measures).

Overview for 2021

In 2021, in the field of public order and peace, 9,275 misdemeanors were recorded (2,977 or 23.7% fewer compared to 2020), and 9,505 offenders were

reported for committing these misdemeanors (2,896 or 23.3% fewer), of whom 1,110 were repeat offenders⁴¹.

For committed misdemeanors in the area of public order and peace, 8,569 orders were issued, and 706 requests were submitted for the initiation of misdemeanor proceedings. Of the total, 8,889 misdemeanors (or 95.8%) fell under the Law on Misdemeanors against Public Order and Peace, while 386 (or 4.2%) were regulated by municipal councils' decisions on public order and peace.

During disturbances of public order and peace in 2021, there were no seriously injured persons (the same as in 2020), while 83 persons (one more than in 2020) sustained minor injuries.

In 2021, compared to 2020, an increase in recorded misdemeanors was registered in the Ilidža and Vogošća Police Stations, while in all other police stations, a decrease was observed.

Table 6. Tabular Overview of the Structure of Public Order and Peace Misdemeanors for 2021/2020

Structure of Misdemeanors	2021	2020	Comparison
Total orders and requests	9,275	12,152	-2,877 or 23.7%
Total offenders	9,505	12,401	-2,896 or 23.3%
Misdemeanors under the Law on Misdemeanors against Public Order and Peace	8,889	11,701	-2,812 or 24%
– Fights	325	322	+3 or 0.9%
– Particularly insolent behavior	470	565	-95 or 16.8%
– Refusal of orders and disrespect of police officers	1,027	2,048	-1,021 or 49.8%
– Quarreling, shouting, indecent behavior	157	182	-25 or 13.7%
– Consumption of narcotic drugs in public places	173	39	+134 or 343.6%
– Unauthorized use of firearms	9	3	+6 or 200%

41 Ministry of Internal Affairs of Sarajevo Canton. (2021). Report on the Work of the Police Administration of the Ministry of Internal Affairs of Sarajevo Canton 2021. Sarajevo: MUP KS. Available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2021-02/izvjestaj_o_radu_mupks_-_2021.godina.pdf (Accessed: 10 August 2024).

– Firecracker ignition	12	17	-5 or 29.4%
– Begging	1,571	1,128	+443 or 39.3%
– Other misdemeanors under the Law on Misdemeanors against Public Order and Peace	5,145	7,397	-2,252 or 30.4%
Misdemeanors under municipal councils' decisions on public order and peace	386	451	-65 or 14.4%

Source: Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2021, available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2021-02/izvjestaj_o_radu_mupks_-_2021.godina.pdf (10.08.2024).

From the tabular overview, it is evident that during 2021, compared to the previous year, the following categories of misdemeanors increased:

- begging by 443 or 39.3%,
- consumption of narcotic drugs in public places by 134 or 343.6%,
- unauthorized use of firearms by six or 200%, and
- fights by three or 0.9%.

By contrast, the following categories decreased:

- other misdemeanors by 2,252 or 30.4%,
- refusal of orders and disrespect of police officers by 1,021 or 49.8%,
- particularly insolent behavior by 95 or 16.8%,
- misdemeanors regulated by municipal councils' decisions on public order and peace by 65 or 14.4%,
- quarreling, shouting, and indecent behavior by 25 or 13.7%, and
- firecracker ignition by five or 29.4%.

By place of commission, the highest number of misdemeanors was recorded on streets and other open spaces – 8,921, while significantly fewer were observed in commercial and craft shops – 77, hospitality establishments – 68, sports stadiums and arenas – six, public transport vehicles – four, and other places – 199 misdemeanors.

Table 7. Tabular Overview of the Structure of Public Order and Peace Misdemeanors by Place of Commission for 2021/2020

Place of Commission	2021	2020	Comparison
Streets and other open spaces	8,921	11,383	-2,462 or 21.6%
Hospitality establishments	68	133	-65 or 48.9%
Sports stadiums and arenas	6	1	+5 or 500%
Public transport vehicles	4	5	-1 or 20%
Schools and schoolyards	—	10	-10
Commercial and craft shops	77	379	-302 or 79.7%
Other places	199	241	-42 or 17.4%
Total	9,275	12,152	-2,877 or 23.7%

Source: Report on the Work of the Police Administration of the Ministry of Internal Affairs of the Sarajevo Canton for 2021, available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_mupks_-_2021.godina.pdf (10.08.2024).

Compared to 2020, the number of recorded misdemeanors decreased on streets and other open spaces by 2,462, in commercial and craft shops by 302, in hospitality establishments by 65, in other places by 42, in schools and schoolyards by 10, and in public transport vehicles by one misdemeanor, whereas the number of misdemeanors in sports stadiums and arenas increased by five.

Within the territory of the Sarajevo Canton in 2021, a total of 2,129 public gatherings were held (575 or 37% more compared to 2020). Police officers of the Police Administration conducted planned activities to ensure the safe organization of public gatherings, carrying out 307 counter-sabotage (KDZ) security measures.

Analysis of Offender Characteristics by Age, Gender, and Recidivism in the Sarajevo Canton

In the course of 2023, of the total number of reported offenders, the age distribution was as follows: the largest group consisted of persons over 36 years of age (2,225), followed by those aged 26–35 (1,796), 19–25 (841), and under 18 years of

age (17 offenders). During disturbances of public order and peace in 2023, no serious injuries were reported (as in 2022), while 89 individuals sustained minor injuries (36 fewer than in 2022). In 2023, 1,151 offenders were classified as recidivists.

In 2022, of the total number of reported offenders, the age distribution was: over 36 years (2,405), 26–35 years (1,788), 19–25 years (1,007), and under 18 years (16 offenders). That year, 1,260 offenders were recidivists.

In 2021, the age distribution of reported offenders was as follows: 26–35 years (3,678), over 36 years (3,433), 19–25 years (2,373), and under 18 years (21 offenders). Among all offenders, 1,110 were recidivists.

In 2020, the reported offenders were distributed by age as follows: 26–35 years (4,533), over 36 years (4,132), 19–25 years (3,666), and under 18 years (70 offenders). During the analyzed year, 920 offenders were classified as recidivists.

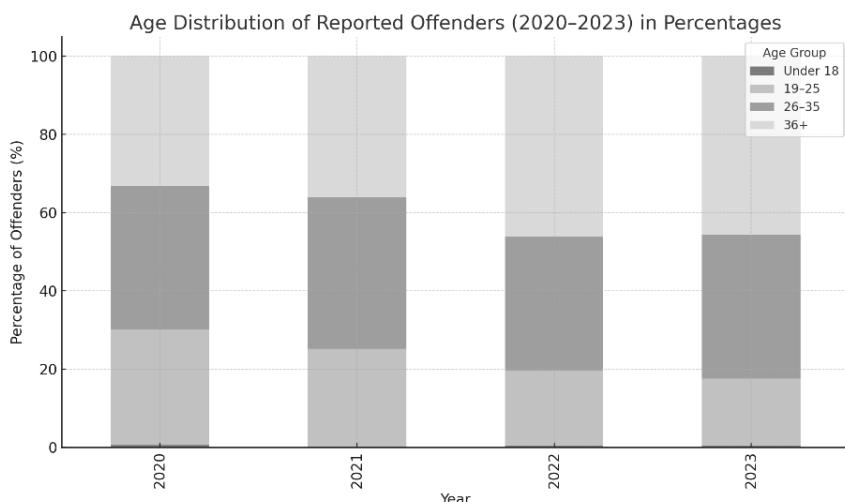


Figure 1. Percentage structure of reported offenders by age group (2020–2023)

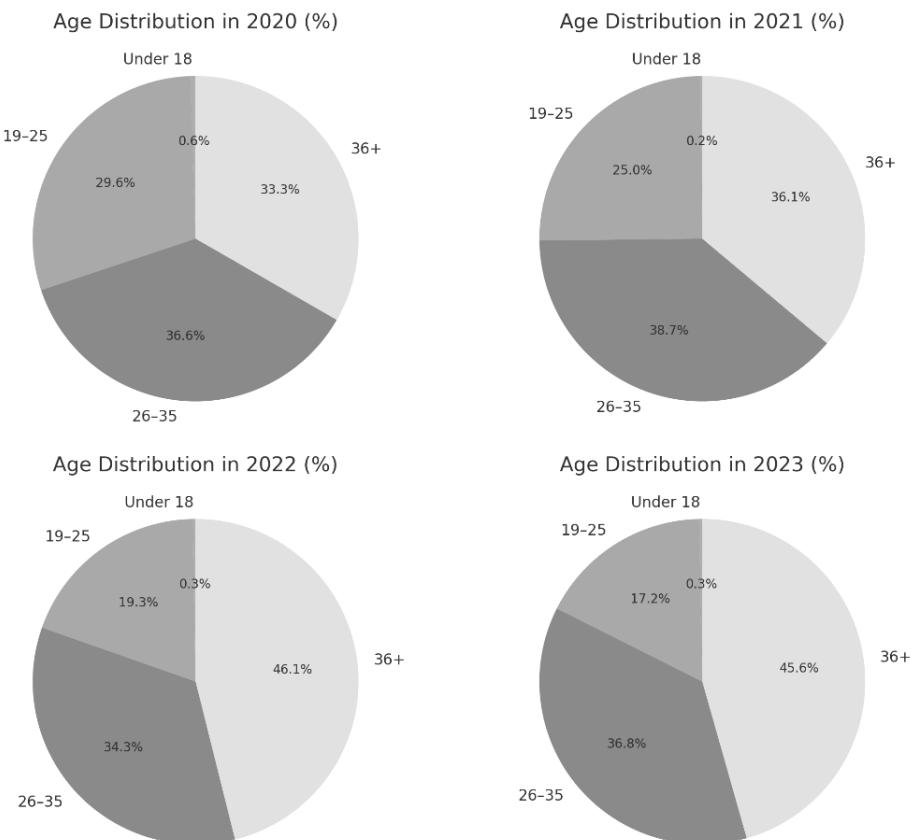


Figure 2. Age distribution of reported offenders in 2020, 2021, 2022, and 2023
(percentage share per year)

Conclusion

In order to prevent violations of regulations by individuals and groups, the state has established specialized bodies that are authorized, on its behalf, to apply coercion to compel irresponsible individuals and groups to comply with established rules of conduct.

Within the framework of the traditional style of police functioning, communication between the police and citizens is limited to incidents and criminal situations. This implies that citizens contact the police exclusively when they require assistance, while the police engage with citizens primarily to obtain specific information.

Community policing provides a significantly broader scope for interaction between police officers and citizens, as it envisions daily contact, mutual acquaintance, and the establishment of trust. Given that citizens most frequently and directly interact with uniformed police officers, and that the majority of police services are provided by uniformed personnel, it follows that the most extensive and significant changes must target the structure of uniformed policing. Even more importantly, citizens are likely to perceive positive changes in the structure of uniformed police most rapidly—particularly at the behavioral level—which in turn will be reflected in greater public acceptance of the police and the gradual development of interactive relationships.

In democratic tradition, the right to apply coercion arises from the necessity of enforcing laws, and it is essential that a specialized public institution be tasked with this function to prevent the emergence of “self-organized” citizen enforcement and the use of uncontrolled force.

Based on the foregoing, the following conclusions can be drawn:

- The police is an organization confronted with problems that require immediate resolution.
- Community policing not only recognizes but practically acknowledges the need for police collaboration with citizens.
- Any police service seeking transformation into a public service for citizens must determine the focus of its reforms.
- The philosophical dimension of policing in contemporary society takes on a democratic form of action and collaboration with society as a whole, even though policing has historically served society and its citizens.
- As a formal instrument of social control, the police have been granted by the state the authority to detect and restrict criminal and unlawful behavior.

Community policing pursues a dual objective: on the one hand, it aims to anticipate problems and act preventively—which does not imply that the police’s repressive powers cannot or should not be exercised; on the other hand, community policing must be continuously available to citizens, striving to meet their expectations. To achieve this objective, police officers, particularly those directly involved in community work, must possess excellent knowledge of their environment and be recognized by the citizens residing there.

A fundamental element of community policing is foot patrol in assigned areas, as it provides a direct method for linking the police with the community. Through this approach, community officers cultivate an atmosphere of trust and respect grounded in sustained interaction with citizens.

Community policing is inherently proactive and preventive. This approach is part of an integrated operational structure: prevention – persuasion – repression (these three elements are treated as equally important). Situational analysis leads to measures and actions that can be preventive, persuasive, or repressive. Community policing represents the establishment of stronger interactions between the police and

citizens, thereby building trust and fostering joint efforts directed at identifying and resolving common problems.

In the event of disturbances to public order and peace, the community police officer analyzes all incidents. Depending on the severity of each event, the officer documents the facts in reports. These interventions are categorized as follows: interventions in cases of public order disturbances, and interventions in cases of criminal offenses related to public order and peace.

REFERENCES:

Books:

Bošković, M. (2009). *Pravo privrednih prestupa i prekršajno pravo*. Novi Sad: Srpski kulturni krug.

Bošković, M., Skakavac, T. (2017). *Prekršajno pravo*. Novi Sad: Fakultet za pravne i poslovne studije dr Lazar Vrktić.

Grupa autora (1975). *Politička enciklopedija*. Beograd: Savremena administracija.

Grupa autora (1989). *Pravna enciklopedija*. Beograd: Savremena administracija.

Hadžović, D., Kržalić, A., Kovačević, A. (2013). *Pregled stanja u oblasti policije u Bosni i Hercegovini*, Sarajevo: Centar za sigurnosne studije.

Krapac, D. (2012). *Kazneno procesno pravo*. Zagreb: Narodne novine dd.

Masleša, R. (1999). *Policija - organizacija i funkcioniranje u demokratskom društvu*, Sarajevo: Svjetlost.

Milosavljević, B. (1994). *Uvod u policijske nauke*. Beograd: Policijska akademija.

Pušeljić, M., Magušić, F., Nad, I. (2008). *Organizacija i funkcioniranje policije*. Zagreb: MUP HR.

Roberg, R., Crank, J., Kuykendall, J. (2004). *Policija i društvo*. Sarajevo: Office of Public Affairs of United States od America.

Šuperina, M., Dujmović, Z. (2010). *Policijske ovlasti i ljudska prava i slobode, Knjiga 1 i 2*. Zagreb: Laserplus.

Trojanowicz, R., Bucqueroux, B. 1991. *Community policing and the challenge of diversity*. Michigan: Michigan State University.

Articles, Reports, and Manuals:

Bezdrob, E. (2019). *Policijsko pravo u Bosni i Hercegovini*. Društvena i tehnička istraživanja broj 2., 86-106.

Filipović, H. (2014). *Kolizija prekršaja protiv javnog reda i mira, tučnjava, svađa i vika s drskim i nepristojnim načinom vrijedanja građana kojima se narušava njihov mir*. *Kriminalistička teorija i praksa*, 1(1), 29-54.

Invanda, S. (2006). *Javni red i mir u statutima srednjovjekovnih hrvatskih gradova*, *Pravni vjesnik*, 23(3-4), 77-96.

Ministry of Internal Affairs of Sarajevo Canton. (2021). Report on the Work of the Police Administration of the Ministry of Internal Affairs of Sarajevo Canton 2021. Sarajevo: MUP KS. Available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2021-02/izvjestaj_o_radu_mupks_-_2021.godina.pdf (Accessed: 10 August 2024).

Ministry of Internal Affairs of Sarajevo Canton. (2022). Report on the Work of the Police Administration of the Ministry of Internal Affairs of Sarajevo Canton 2021. Sarajevo: MUP KS. Available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_mupks_-_2021.godina.pdf (Accessed: 10 August 2024).

Ministry of Internal Affairs of Sarajevo Canton. (2023). Report on the Work of the Police Administration of the Ministry of Internal Affairs of Sarajevo Canton 2022. Sarajevo: MUP KS. Available at: https://mup.ks.gov.ba/sites/mup.ks.gov.ba/files/2023-02/izvjestaj_o_radu_mupks_-_2022.godina.pdf (Accessed: 10 August 2024).

Juras, D., Marendić, S., Doljanin, M. (2023). Prekršaji protiv javnog reda i mira na području policijske uprave splitsko-dalmatinske, *Zbornik radova Veleučilišta u Šibeniku*, Vol. 17(3-4), 125-139.

Ministry of the Interior of the Republic of Croatia. (n.d.). Community Policing Strategy in the Republic of Croatia. Available at: <https://policija.gov.hr/policija-u-zajednici-453/453> (Accessed: 7 August 2024).

Police Support Agency of Bosnia and Herzegovina. (n.d.). Community Policing in Bosnia and Herzegovina: Manual. Available at: http://www.psa.gov.ba/Popisi_i_dokumenti/Propisi/Konvencije/PRIRUCNIK%20-%20Rad%20policije%20u%20zajednici%20u%20BiH.pdf (Accessed: 7 August 2024).

Skakavac, T. (2017.) Problematika prekršaja protiv javnog reda i mira na području Policijske uprave Novi Sad - stanje i karakteristike, *Civitas*, god. 7., br. 2, 75-87.

Legislation:

Criminal Code of Bosnia and Herzegovina. Službeni glasnik Bosne i Hercegovine [Official Gazette of BiH], Nos. 3/03, 32/03, 37/03, 54/04, 61/04, 30/05, 53/06, 55/06, 8/10, 47/14, 22/15, 40/15, 35/18, 46/21, 31/23, 47/23.

Law on Misdemeanors against Public Order and Peace, Sl. novine Kantona Sarajevo [Official Gazette of Sarajevo Canton], Nos. 18/07, 7/08, 34/20.

Law on Misdemeanors of the Federation of Bosnia and Herzegovina, Službene novine FBiH [Official Gazette of FBiH], No. 63/14; Sl. glasnik BiH [Official Gazette of BiH], Nos. 41/2022 (Decision of the Constitutional Court of BiH) and 68/2022 (Decision of the Constitutional Court of BiH).

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SMART SPECIALIZATION AND DIGITALIZATION OF DRR TRAINING IN PRIVATE SECURITY AND MILITARY FORMATIONS

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Abstract: This paper presents an integrated framework for the specialization of Disaster Risk Reduction (DRR) training designed for both private security organizations and military formations. The study introduces an innovative approach that combines digital disaster risk prediction and mitigation, leveraging cutting-edge Artificial Intelligence (AI) and Internet of Things (IoT) technologies, with practical DRR and Active Shooter training programs. The primary goal of this framework is to reduce anthropogenic risks, such as sabotage, armed attacks, and terrorism, while simultaneously enhancing the resilience, operational readiness, and coordinated response capabilities of critical defense and security entities. The framework proposes a modular training curriculum structured into basic, advanced, and expert levels, allowing participants to progressively acquire theoretical knowledge, technical skills, and tactical competencies. Training modules integrate digital risk matrices, scenario-based exercises, and operational simulations, enabling participants to develop rapid decision-making, situational awareness, and collaborative skills applicable in real-world high-risk environments. Evaluation metrics, including time-to-detect threats, time-to-respond, and after-action reviews, provide a systematic methodology for measuring performance and identifying areas for continuous improvement. A core component of the framework is the digital risk prediction and mitigation tool, which integrates real-time threat analysis, geospatial mapping, vulnerability assessment, and scenario generation. This tool supports evidence-based decision-making,

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allowing commanders and security managers to anticipate, prevent, and respond effectively to complex threats. Additionally, it bridges theoretical risk assessment with practical Active Shooter simulations, providing a realistic, interactive, and adaptive training environment. The findings indicate that the integration of advanced digital tools with modular DRR training enhances operational readiness, strengthens interoperability between military and private security formations, and fosters a culture of preparedness and resilience. By combining predictive analytics, scenario-driven exercises, and structured evaluation processes, this framework provides a comprehensive and forward-looking model for modern security training. Ultimately, it establishes a higher standard of safety, responsiveness, and organizational resilience, suitable for both national and multinational operational contexts.

Keywords: DRR, ISO 31000, RAMCAP, AI prediction

Introduction

We live in a “risk society,” as defined by the German sociologist Ulrich Beck as early as the 1950s. Today, terrorist organizations increasingly rely on digital media and the internet, disseminating images and information about their activities worldwide. This process, intentionally or not, provides unnecessary media exposure to terrorist groups, enabling them to spread their ideas and objectives more effectively. Consequently, new forms of terrorist attacks have emerged, often carried out by sympathizers or so-called “sleepers,” who act independently and without direct organizational coordination. Since such perpetrators are usually unknown to security services, or only minimally monitored, their actions are extremely difficult to predict or prevent. In several cases, attackers were previously detained and questioned, but eventually released due to insufficient evidence, only to later commit attacks with devastating consequences for society. An additional challenge lies in the phenomenon of uncontrolled migration and the lack of sufficient cooperation among intelligence services in countries along the migration routes. While this paper is being written, Europe continues to witness terrorist attacks involving vehicles targeting pedestrians. Moratić et al. (2017).

An “invisible enemy” proved to be a special challenge during the COVID-19 crisis, which reshaped security perspectives in every respect. The crisis triggered by the pandemic proved to be multidimensional, extending beyond health concerns to encompass humanitarian, social, economic, and political aspects. Turkcan (2020) emphasizes that the COVID-19 pandemic represents an existential threat to human security, as pandemics not only increase mortality rates, but also negatively affect the economic, social, and political structures of states. It has become evident that national security systems remain primarily structured for defending the state against armed aggression, relying heavily on hard-power elements such as the military, police, and intelligence-security agencies (Tatalović & Malnar, 2021). Although the pandemic has

been formally recognized as a security threat in strategic documents, this recognition was not adequately followed by operationalization within national security systems, which significantly reduced the effectiveness of the response.

Contemporary military operations take place in a complex risk environment in which military installations and supporting critical infrastructure are exposed to a combination of natural, technological, and deliberate (terrorist) threats. NATO's Force Protection doctrine (AJP-3.14) highlights that safeguarding personnel, assets, and activities is essential for maintaining freedom of action and mission effectiveness. Planning for Force Protection requires explicit risk management through systematic identification of threats and vulnerabilities. In this context, the international frameworks ISO 31000 (principles, framework, and process) and the Sendai Framework (four priorities and seven global targets) are particularly relevant and can be operationalized within the military through NATO procedures and the planning cycle.

The NATO security environment is further characterized by the rise of hybrid threats, terrorism, and attacks on military facilities. NATO doctrines AJP-3.14 (Force Protection) and AJP-3.15 (Counter-IED) emphasize the necessity of systematic risk management, while ATP-3.8.1 (CBRN Defence) introduces specialized protocols for protection against chemical and biological threats.

According to Moratić (2025), the integration of disaster risk reduction (DRR) training with risk prediction and proactive responses by soldiers and security personnel is a key component of the resilience of bases and missions. Such integration would not be fully effective without modern and innovative IT tools. As Garaplija (2023) stresses, an integrated approach to risk management must include proactive digitalization of risks through advanced risk-matrix algorithms, thereby enabling rapid and automated responses of the command chain to security incidents.

Normative Framework

Contemporary security challenges demand an integrated approach to training and specialization across both military structures and private security organizations. In this context, Disaster Risk Reduction (DRR) training assumes a critical role, aiming to strengthen the resilience of institutions and personnel against natural, technological, and deliberate threats. The normative foundation for such training and for smart specialization derives from international, European, and national standards that emphasize systematic risk management, interoperability, and digital transformation. As Garaplija (2023) emphasizes, "an integrated approach to implementing DRR objectives represents a combination of risk assessment and strategic planning, supported by modern digital tools and specialized training programs." This underscores the necessity of bridging theoretical risk frameworks with practical operational skills in both military and civilian security domains.

The first key reference framework is **ISO 31000:2018 – Risk Management – Guidelines**, which establishes the risk management principles, structured framework

and comprehensive process. ISO 31000 is applicable to both military installations and private security companies, providing a universal methodology for identifying, assessing, and treating risks. Its principles promote proactive and systematic risk evaluation, ensuring that both organizations and personnel are prepared to respond to emerging threats in a structured and evidence-based manner.

Another critical international framework is the UNDRR **Sendai Strategic Framework 2022–2025**, which prioritizes investment in resilience, preparedness enhancement, and the integration of DRR principles into all sectors, including security structures. The framework emphasizes a multi-stakeholder approach, encouraging coordination between governmental bodies, private enterprises, and civil society. Its application within security and defense contexts fosters the harmonization of operational procedures with global best practices, ultimately increasing the robustness of both military and civilian protection mechanisms.

Within military doctrine, **NATO AJP-3.14 (Allied Joint Doctrine for Force Protection)** highlights that force protection should encompass not only physical security measures, but also risk-reduction training, the integration of civil and military capabilities, and threat-based planning. Complementary doctrines, such as **NATO AJP-3.15 (Countering IEDs)** and **ATP-3.8.1 (CBRN Defence)**, provide specialized guidance for training against explosive, chemical, and biological threats. Incorporating these standards into curricula for private security personnel enhances national resilience and promotes interoperability between military and civilian actors, in line with broader security strategies.

Infrastructural security is further supported by U.S. standards, such as **UFC 4-010-01 (DoD Minimum Antiterrorism Standards for Buildings, 2018/update 2024.)**, which establish minimum requirements for building design and protection against terrorist attacks. Increasingly, these standards are applied in civilian security practices, offering a benchmark for safeguarding both personnel and critical assets. Additionally, the **RAMCAP (Risk Analysis and Management for Critical Asset Protection, 2005.)** methodology provides a structured framework for assessing threats, vulnerabilities, and potential consequences, facilitating risk-informed decision-making in both military and commercial security projects.

Moratić and Ahić (2015) contend that training designed to address active threats, particularly active shooter incidents, should systematically develop and synchronize the reflexive and cognitive responses of security personnel through rigorously constructed, scenario based simulations. Such training must also incorporate controlled exposure to psychological stressors and structured command decision making processes. This assertion underscores the imperative of integrating theoretical constructs with experiential learning methodologies to cultivate comprehensive operational readiness in high stress, real world environments.

At the European Union level, the **Smart Specialisation Strategy (S3)** introduces the imperative to link research, innovation, and security practice. Incorporating DRR

principles into smart specialization strategies allows military institutions and private security companies to leverage digital tools, predictive algorithms, and simulation technologies, optimizing both training and operational procedures. Such integration facilitates knowledge transfer between academic institutions, industry, and defense structures, aligning with the priorities of the EU Digital and Green Agendas.

Taken together, these standards and doctrines indicate that DRR training and smart specialization are not merely technical or operational requirements. Rather, they constitute a strategic process that connects international norms, national security policies, and digital transformation in the security sector. The inclusion of both private security actors and military personnel within a shared training framework strengthens societal resilience, enhances trust in security institutions, and fosters a culture of security based on knowledge, interoperability, and innovation. By systematically applying these frameworks, organizations can anticipate threats, implement evidence-based mitigation measures, and ensure a comprehensive and adaptive approach to contemporary security challenges.

DRR & Active Shooter Training

The integrated framework for specialized Disaster Risk Reduction (DRR) training in private security organizations and military units represents an innovative approach jointly developed by DRR experts and specialists in military and security training. This collaborative methodology introduces a novel scientific approach by combining digital risk prediction and disaster risk reduction based on AI and IoT cutting-edge technologies with active DRR and Active Shooter training. The primary objective is to mitigate anthropogenic risks, including sabotage, attacks, and terrorism, while enhancing the resilience of critical defense and security entities.

DRR training is structured around a modular approach, allowing participants to progressively acquire knowledge, practical skills, and operational competencies. The framework consists of three levels:

- **Module 1 – Basic Module:** This introductory module familiarizes participants with the principles of risk management and the application of a digital risk matrix based on **ISO 31000**, integrated with NATO's **Force Protection** concept and Active Shooter training. The module emphasizes foundational knowledge in threat assessment, situational awareness, and basic emergency response protocols.

- **Module 2 – Advanced Module:** This intermediate module focuses on **Anti-Terrorism/Force Protection (AT/FP)** design in accordance with the **UFC 4-010-01** standard, emphasizing the integration of DRR and Active Shooter training. Participants are introduced to advanced digital risk management tools within a geospatial and situational environment, enabling enhanced scenario planning, threat analysis, and real-time decision-making capabilities. This module bridges theoretical risk frameworks with applied tactical and operational competencies.

• **Module 3 – Expert Module:** The expert module is designed to develop trainers' capacities for conducting integrated DRR and Active Shooter sessions. Training includes the simulation of realistic terrorist attack scenarios, supported by AI-driven predictive analytics and threat prevention technologies. Participants gain expertise in designing, managing, and evaluating complex training exercises that replicate real-world operational challenges, while enhancing decision-making under psychological stress and high-pressure conditions.

This integrated training model not only builds individual and organizational resilience, but also fosters interoperability between military and private security actors. By embedding digital technologies and predictive analytics into DRR and Active Shooter exercises, the framework ensures a proactive and anticipatory approach to contemporary security threats. Furthermore, it promotes a culture of continuous learning, innovation, and evidence-based operational planning, aligning with international standards and best practices in risk management and force protection.

Evaluation Methods

The effectiveness of Disaster Risk Reduction (DRR) training is measured using clearly defined evaluation methods. The fundamental methodological principle follows three levels: identification, analysis, and evaluation of all key information, objectives, and outcomes, employing advanced methodological techniques. Key metrics include **Time-to-Detect (TtD)** and **Time-to-Respond (TtR)**, which indicate the ability of units to quickly identify and neutralize threats. NATO evaluation checklists, particularly in the domains of CBRN and Force Protection, serve as standardized instruments to assess interoperability and readiness levels. Finally, **After Action Reviews (AARs)** and feedback from digital data analyses enable systematic learning from simulations and real-life events, thereby closing the cycle of continuous improvement in training programs.

Regular education and exercises allow personnel to recognize threats, respond promptly, and coordinate actions, significantly reducing casualties. During the response phase, activities are executed immediately during and after an incident, aiming to minimize damage and protect human life. These include rapid intervention by police and emergency services, implementation of lockdown procedures, evacuation, provision of first aid, and coordination between multiple institutions to optimize resources and communication. The effectiveness of this phase largely depends on prior preparations and clearly defined procedures.

The recovery phase focuses on long-term rehabilitation and increasing community resilience. Recovery encompasses psychosocial support for victims and witnesses, revision and enhancement of security plans, rehabilitation of damaged buildings and infrastructure, and the implementation of programs that strengthen community capacity to cope with future threats.

Overall, DRR training in security and military formations is structured as an integrated process that combines international standards, digital tools, and realistic threat scenarios. According to Obradović (2011) this approach ensures that both military and private sectors develop resilience, interoperability, and rapid response capabilities, which are essential for security in contemporary operational environments.

Active shooter incidents are classified within the DRR framework as human-induced hazards with the potential to cause catastrophic consequences for human lives, property, and community functionality. Unlike natural disasters, these events are unpredictable in terms of their nature and the perpetrator's motivation, requiring a specialized risk management approach. Studying active shooter events from a DRR perspective enables a systematic understanding of threat identification and assessment, development of prevention strategies, enhancement of institutional and community response capabilities, and support for psychosocial and infrastructural recovery following an incident.

It is important to emphasize that 100% security does not exist (Rađenović, 2003). Within security structures, there is a principle stating that those who attempt to secure everything and everyone will ultimately secure nothing and no one. A carefully selected and trained security team is capable of performing two key functions during an incident:

- Acting preventively and deterring attackers through their presence and the impression they convey in public (Korajlić & Dautbegović, 2012);
- Responding promptly to force attackers to fail in achieving their objectives during the first attack, thanks to the proper selection and training of team members (Moratić & Ahić, 2015).

By integrating these evaluation metrics and operational principles, DRR and Active Shooter training programs ensure that security personnel are not only theoretically prepared, but also capable of applying knowledge and skills effectively under real-world conditions. This systematic approach fosters a culture of continuous improvement, operational readiness, and evidence-based decision-making in both military and private security contexts.

Digital Tool for DRR - Risk Prediction and Mitigation

The introduction of digital technologies into security and protection processes enhances the ability of both military and private security sectors to identify, predict, and mitigate risks. A central element is a **digital tool for risk prediction and mitigation**, integrating risk management methodologies, intelligence sources, and operational procedures, enabling faster and more precise decision-making and improving resilience against terrorism and hybrid threats.

An **enhanced risk matrix algorithm** lies at its core. According to Garaplija (2024), "the algorithm connects quantitative and qualitative risk variables through a digital matrix, allowing risks to be assessed in real time and linked to operational decisions at the command level." The mathematical model is:

$$\text{RISK} = (wt \cdot T + wv \cdot V + wc \cdot C) / wr \cdot R$$

where T = Threat, V = Vulnerability, C = Consequence, R = System resilience, and w = weighting factors adjusted by command according to mission priorities.

A method for determining weights is used to establish the relative importance of criteria in a decision-making process. There are several approaches, all aiming to assign numerical values (weights) to criteria that reflect their significance.

Brief description of the most common methods:

1. Expert judgment – experts assess the importance of each criterion based on their experience and knowledge; weights are assigned through consensus.

2. Ranking method – criteria are ordered by importance (1 = most important, n = least important), and weights are calculated according to the rank order.

3. Point allocation method – each criterion is given a certain number of points (e.g., from 1 to 10), and the points are then normalized into weights.

4. AHP (Analytic Hierarchy Process) – uses pairwise comparison of criteria; the comparison matrix is used to compute an eigenvector representing the weights.

5. Entropy method – uses statistical variability of data to objectively determine weights (more information = higher weight).

Weights are determined to ensure that each decision reflects the balanced significance of the criteria — either subjectively (through experts) or objectively (through data).

The tool's functionalities include:

- Integration with intelligence and OSINT feeds;
- Generation of geospatial risk maps and vulnerability heatmaps;
- Automatic compliance verification with AT/FP standards;
- Scenario creation for TTX and CPX exercises.

This system bridges predictive analytics with operational decision-making, enabling military and security units to proactively test response procedures and enhance operational readiness.

Integrated Module & Simulation

Recent terrorist attacks in the heart of Europe targeting symbols of democracy and freedom have highlighted the critical gaps in information sharing among security services and demonstrated the level of fear and panic that simultaneous attacks with high numbers of civilian casualties can generate (Abazović, 2002). A particular advantage of the digital risk prediction tool is its ability to integrate with the **Active Shooter Training methodology**, providing a bridge between theoretical risk assessment and practical tactical response.

The phenomenon of the **active shooter** represents one of the most complex and dangerous contemporary threats to citizen safety in both public and private spaces. Active shooter incidents typically involve an individual or a group systematically using firearms or other lethal means with the intent of inflicting maximum casualties in a

short period. These attacks are characterized by their unpredictability, speed, and high mortality rates, making them especially dangerous for the public and posing significant challenges for security and crisis management structures.

While often perceived primarily as a security problem, it has become evident over the past few decades that these incidents can also be analyzed through the lens of **Disaster Risk Reduction (DRR)**. Traditionally applied to natural disasters such as floods, earthquakes, or fires, DRR principles are increasingly used in the context of high-risk human-induced threats, including mass shootings.

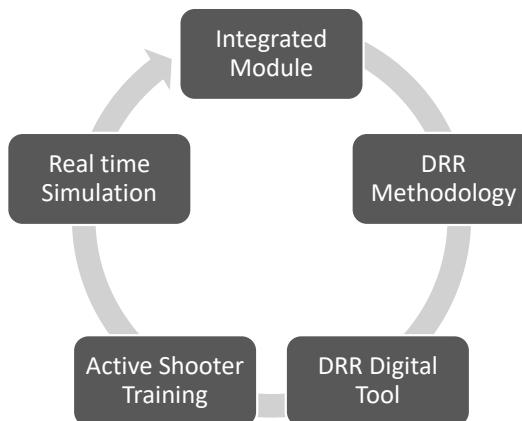


Diagram of Integrated DRR Module
(Created by the authors)

Based on input data, the digital tool is capable of generating simulations of complex threat scenarios, such as a combined Vehicle-Borne Improvised Explosive Device (VBIED) attack with an insider active shooter. These simulations test the coordinated response of military personnel and private security officers, assessing reflexes, decision making speed, and command procedures, in accordance with Moratić (2024).

In summary, the risk prediction and mitigation digital tool acts as a critical bridge between theoretical risk management and practical field response. It elevates the standards of security culture in line with NATO doctrines, enabling both military and private security formations to develop real-time resilience while simultaneously enhancing operational efficiency and interoperability.

Conclusion (Discussion and Results)

The analysis of the integrated approach to Disaster Risk Reduction (DRR) training in both military and private security structures demonstrates that the synergy between these sectors generates significant operational and strategic benefits for

overall security management. By combining institutional capacities, knowledge, and practical experience, integrated training establishes shared standards, interoperable procedures, and mutual understanding of operational protocols, which are crucial for coordinated response in complex threat environments.

When training combines DRR methodology with NATO Force Protection (AJP-3.14 and Counter-IED AJP-3.15, 2015.) doctrines, participants acquire a set of compatible and transferable skills. These include rapid threat identification, situational awareness, decision-making under pressure, and coordinated tactical responses that can be applied in real operational contexts. The integration of private security personnel into such training programs ensures that military and civilian actors operate using a common procedural framework, which reduces confusion during emergencies and strengthens collaborative decision-making.

A key finding is the impact of risk digitalization. The use of the enhanced digital risk matrix algorithm (Garaplija, 2024) enables command structures to process complex threat, vulnerability, and consequence data in real time, allowing for rapid operational adjustments. This reduces reliance on subjective judgments and enhances evidence-based decision-making, providing commanders and security managers with actionable insights during critical incidents. The digital tool not only serves as an analytical platform, but also functions as a command-support system, linking predictive risk assessment directly with operational protocols and simulations.

The study also highlights the value of advanced active shooter simulations. Exercises integrating digital predictive tools with Active Shooter Training reveal that response effectiveness depends heavily on reaction speed, situational awareness, and coordination between military and private security actors. Particularly during the initial moments of an incident, synchronized action can significantly reduce casualties and prevent attackers from achieving their objectives. Digital-assisted simulations further enhance stress inoculation, allowing participants to practice rapid decision-making under high-pressure conditions and in scenarios that closely mirror potential real-world attacks.

Additionally, the results demonstrate the system's interoperability in multinational contexts. Alignment with NATO Force Protection, Counter-IED, and CBRN standards ensures that the training methodology is applicable not only nationally, but also across joint missions involving coalition partners. This common framework enables both military and civilian security personnel to operate cohesively, share intelligence more efficiently, and establish uniform response protocols. Consequently, the integrated training contributes to enhanced collective resilience, reducing the operational gaps between military and private security sectors.

The integration of DRR and digital risk tools also promotes continuous learning and adaptive capacity. After-action reviews (AARs) and scenario-based exercises provide structured feedback, enabling participants to identify strengths and weaknesses, improve coordination, and refine tactical and strategic responses. Over time, this creates a culture of proactive preparedness, where lessons learned from simulations are institutionalized into standard operating procedures, ultimately raising the overall security culture.

From a broader perspective, these findings underscore the strategic value of combining technological innovation with traditional training frameworks. The synergy between predictive digital tools, AI-supported risk assessment, and practical training ensures that security actors are not only reactive but also anticipatory in their approach. It allows organizations to preemptively identify vulnerabilities, optimize resource allocation, and strengthen response capabilities, aligning with NATO doctrines and international standards such as ISO 31000 and the Sendai Framework.

Finally, the results indicate that integrated DRR training with digital support provides measurable improvements in three key domains:

1. **Operational readiness** – faster detection and response times, improved coordination, and effective management of complex threat scenarios.
2. **Interoperability** – harmonized procedures between military and private security actors, ensuring cohesive action in joint missions.
3. **Resilience** – enhanced capacity to absorb shocks from high-risk incidents, including human-induced threats, such as active shooter attacks, while maintaining critical functionality.

In the end, we need to take into account the key recommendation deriving from EU Directive 2022/2555 of the European Parliament and Council of 14 December 2022 - on measures for a high common level of cybersecurity across the Union (NIS2 Directive) and Directive (EU) 2022/2557 of the European Parliament and the Council of 14 December 2022 - on the resilience of critical entities (CER Directive).

The NIS2 Directive, which sets forth in Article 14(4)(c): “The Cooperation Group shall exchange best practices and information in relation to the implementation of this Directive, including in relation to cyber threats, incidents, vulnerabilities, near misses, awareness-raising initiatives, training, exercises and skills, capacity building, standards and technical specifications”.

“Critical entities shall take appropriate and proportionate technical, security and organisational measures to ensure their resilience, including measures necessary to prevent incidents, respond to, resist and mitigate the consequences of incidents, recover from incidents, ensure adequate employee security management and raise awareness among relevant personnel, duly considering training courses, information materials and exercises.” (Directive (EU) 2022/2557, Article 13).

In conclusion, the integrated DRR approach, supported by advanced digital tools and scenario-based exercises, represents a significant advancement in modern security training. It not only strengthens the operational capabilities of military and private security formations, but also fosters a culture of preparedness, adaptability, and evidence-based decision-making, fully aligned with contemporary security challenges and NATO operational standards.

REFERENCES:

Abazović, M. (2002). National Security. Sarajevo: Faculty of Criminology, Criminal Justice and Security Studies, University of Sarajevo.

Foray, D. (2015). Smart Specialisation: Opportunities and Challenges for Regional Innovation Policy. Routledge.

Gancarczyk, M., Ujwary-Gil, A., & González-López, M. (Eds.) (2021). Partnerships for Regional Innovation and Development: Implementing Smart Specialisation in Europe. Routledge.

Garaplija, E. (2023). An Integrated Approach to Risk Management and Digitalization of DRR Processes. "ZIS Journal – Protection and Security," Sarajevo: Association AZUR.

Garaplija, E. (2024). Algorithm for Improved Calculation of the Risk Matrix According to ISO 31000. Proceedings of the Scientific Conference "Security and Protection 2024," "ZIS Journal – Protection and Security," Sarajevo: Association AZUR.

Korajlić, N. & Dautbegović, A. (2012). Fundamentals of Criminalistics. Travnik: University in Travnik.

Moratić, Z. (2015). Predvidivi model selekcije i obuke profesionalaca za blisku zaštitu VIP ličnosti u BiH/Foreseeable Selection Model and Training of Professionals for VIP Close Protection in BiH. Zbornik sažetaka, 1(1), 27-28.

Moratić, Z. (2024). Analysis of Specific Anthropological Characteristics and Comparison Between and Within Certain Positions in a VIP Close Protection Team. Bezbednosni dijalozi, 15(1), 207–220.

Moratić, Z. (2024). Analysis of Performance Components of Members of Close Protection Teams in Public and Private Security. Kriminalističke teme – Year XXIII, No. 3–4, 2023.

Moratić, Z., Hadžikadunić, A., & Ahić, J. (2017). analysis of anthropological characteristics important for performance of assignments by vip close protection teams. sportski logos, 29.

Moratić, Z. & Ahić, J. (2015). Close Protection of VIP Persons. Sarajevo: Faculty of Criminology and Security Studies, University of Sarajevo.

Obradović, S. K. (2011). Planning, Recruitment and Selection of Personnel in the Ministry of Interior of Republika Srpska. Nauka, bezbednost, policija, 16(1), 135–156.

Rađenović, R. (2003). Security of Certain Persons and Facilities. Ministry of Interior of Republika Srpska, Belgrade.

Tatalović, S. & Malnar, D. (2021). The COVID-19 Pandemic and a New Understanding of Security. Political Thought, No. 3, Faculty of Political Sciences, University of Zagreb

Turkcan, M. L. (2020). Pandemics blind spots in national security paradigms, AA 23.5. 2020., Istanbul.

Uitto, J. I., & Shaw, R. (Eds.) (2016). Sustainable Development and Disaster Risk Reduction. Springer.

Publications & Standards

ISO 31000:2018 – Risk management – Guidelines.

Directive (EU) 2022/2555 of the European Parliament and of the Council of 14 December 2022 — on measures for a high common level of cybersecurity across the Union (NIS2 Directive)

Directive (EU) 2022/2557 of the European Parliament and of the Council of 14 December 2022 — on the resilience of critical entities (CER Directive)

NATO AJP-3.14: Allied Joint Doctrine for Force Protection, 2015. (https://coemed.org/files/stanags/01_AJP/AJP-3.14_EDA_V1_E_2528.pdf)

NATO AJP-3.15(C): Allied Joint Doctrine for Countering Improvised Explosive Devices, 2018.

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/686715/doctrine_nato_countering_ied_ajp_3_15.pdf)

NATO ATP-3.8.1: CBRN Defence, 2019.

RAMCAP (Risk Analysis and Management for Critical Asset Protection), 2005., (<https://files.asme.org/ASMEITI/RAMCAP/12604.pdf>)

UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings, 2018/2024., (https://www.wbdg.org/FFC/DOD/ufc_4_010_01_2018_c3.pdf)

UN DRR SENDAI STARTEGIC FRAMEWORK 2022-2025,
(<https://www.unrr.org/media/49267/download?startDownload=20251121>)

Scientific article

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SOLIDARITY IN CRISIS: THE ROLE OF DISASTER DIPLOMACY IN PROMOTING GOOD NEIGHBORLY RELATIONS IN THE WESTERN BALKANS

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Abstract: *This paper examines the concept of solidarity through disaster diplomacy and its significance for the countries of the Western Balkans, where political tensions and unresolved disputes often intersect with recurring natural disasters. Global warming, climate change, and human impact have made disasters more frequent, more complex, and more destructive. Their unpredictability renders systems more vulnerable and less resilient. By analyzing how earthquakes, floods, wildfires, and pandemics have affected the relations among the Balkan states, this study aims to determine whether solidarity during natural disasters can foster cooperation or deepen divisions. Using a comparative case study methodology, the paper highlights examples such as the floods that affected nearly all Western Balkan countries in 2014, the earthquake in Albania in 2019, the COVID-19 pandemic, and the forest fires of the last decade that have impacted every country in the region. Findings suggest that although solidarity in disaster situations creates short-term opportunities for humanitarian cooperation and trust-building, it rarely leads to sustainable diplomatic progress due to deeply rooted political disagreements. The paper concludes that disaster diplomacy can serve as a valuable complementary tool for fostering regional trust and Euro-Atlantic integration, provided that it is institutionalized within regional and international mechanisms.*

Keywords: *Solidarity, crisis, disasters, diplomacy, Western Balkans*

1. Introduction

Undoubtedly, this concept represents an innovation in diplomacy and in the theoretical frameworks that explore this issue. The role of diplomacy during natural

disasters examines the extent to which such events influence peace, conflict resolution, and international cooperation. The theoretical foundations of disaster diplomacy were first established by the scholar Ilan Kelman. This concept argues that although disasters may create spaces for dialogue, opportunities for meetings, and discussions through expressions of solidarity, they rarely resolve deeply rooted political conflicts.

However, when combined with the notion of solidarity, disaster diplomacy reveals an even more complex dimension: the capacity of shared suffering and collective response to act as a catalyst for humanitarian unity — even in regions burdened by historical mistrust resulting from chronic antagonisms.

In the Balkan¹ context—a region marked by ethnic tensions, unresolved and undefined borders, and fragile governance—natural disasters present both challenges and opportunities for diplomacy in general. The recurrence of earthquakes, floods, persistent wildfires, and, more recently, pandemics forces states and societies to recognize their shared vulnerabilities. Such disasters require cross-border cooperation, humanitarian assistance, and engagement with international organizations, creating spaces where solidarity can transcend political boundaries.

In this sense, solidarity functions both as a humanitarian principle and as a diplomatic instrument. It enables states to temporarily suspend rivalries in the name of collective survival, reshaping the narrative of disaster response from an issue of mere necessity to one of strategic and moral responsibility—both in immediate response and in prevention.

At the same time, external actors such as the European Union (EU), NATO, Russia, China, and Turkey perceive post-disaster assistance as an arena for influence projection and mutual competition, thereby transforming solidarity simultaneously into a regional imperative and a geopolitical currency.

Therefore, this paper seeks to answer the research question:

Do natural disasters in the Balkans foster genuine and empathetic solidarity that strengthens cooperation, or do they merely create temporary humanitarian gestures overshadowed by deeply rooted political divisions?

The hypothesis of this study is that while disasters offer short-term opportunities for humanitarian solidarity and regional cooperation, structural-political disputes and other antagonisms continue to limit their long-term diplomatic impact.

2. Theoretical Framework

According to Kelman (2007, 2012), the theory of disaster diplomacy argues that natural disasters may open temporary windows for cooperation between opposing parties, yet they rarely manage to transform the structural foundations of political disputes.

¹ The term “small states” in international relations refers to countries with limited economic, military, or political capacity but significant strategic importance due to geography or diplomacy.

One of the most frequently cited examples is the 1999 earthquakes in Greece and Turkey: the immediate reciprocal assistance and public solidarity eased bilateral tensions, yet the long-standing disagreements over Cyprus and maritime borders soon resurfaced. This illustrates the central thesis of disaster diplomacy theory — that disasters can serve as catalysts for dialogue, but not as solutions to deeply rooted political conflicts.

Of particular importance in addressing this issue is the clarification of several key notions. Disaster diplomacy, solidarity in times of crisis, and good-neighborly (or regional) relations represent the three main pillars — or analytical frameworks — for explaining and responding to the hypothesis formulated in this study.

Building upon the concept of disaster diplomacy, the notion of solidarity in crisis emphasizes the ethical, humanitarian, and social dimensions of disaster response. Solidarity goes beyond short-term humanitarian gestures; it reflects a collective acknowledgment of shared vulnerabilities and interdependence in the face of crisis².

Theories of solidarity (Habermas, 1990; Bayertz, 1999) present it as both a moral imperative and a functional necessity for ensuring social stability.

In the context of disasters, solidarity can manifest through:

- cross-border assistance,
- joint crisis management, and
- sharing of regional burdens.

While disaster diplomacy primarily focuses on political outcomes, solidarity places emphasis on humanitarian ethics and the potential for building trust and empathy — thereby strengthening the foundations for long-term cooperation.

In international relations, the principle of good-neighborly relations — often mentioned in the European Union's enlargement policies and within United Nations (UN) frameworks — underscores the importance of peaceful coexistence, mutual respect, and cooperation among neighboring states.

In the EU accession process, for instance, Western Balkan countries are required to demonstrate good-neighborly relations as a precondition for integration. Disasters can test these commitments in various ways:

- states that provide assistance to neighbors in crisis strengthen their diplomatic credibility and alignment with international norms;
- whereas the lack of solidarity can deepen mistrust and reinforce negative stereotypes.

Taken together, these three approaches offer a multi-layered framework for understanding crisis diplomacy in the Western Balkans:

I. Disaster diplomacy identifies the structural limitations of crises as potential diplomatic turning points.

II. Solidarity in crisis highlights the moral and humanitarian potential for building empathy and trust across borders.

² Solidarity in international relations differs from charity—it implies reciprocal commitment and shared vulnerability.

III. Good-neighborly relations connect solidarity and cooperation with broader political and institutional frameworks, particularly those related to EU and NATO accession criteria.

In the Western Balkans, where historical grievances and unresolved disputes persist, disaster diplomacy may not directly resolve conflicts; however, solidarity during crises can serve as an intermediate step toward establishing good-neighborly relations.

By institutionalizing this solidarity — through mechanisms such as the EU Civil Protection Mechanism or NATO's Euro-Atlantic Disaster Response Coordination Centre (EADRCC) — disaster responses can evolve from temporary gestures into sustainable practices of regional cooperation.

3. Regional Perspectives

In the Western Balkans, the issue of addressing disaster diplomacy remains relatively limited, lacking scientific analyses and systematic data exchange among states³. From both distant and recent history, we can highlight that, compared to more studied examples such as the rapprochement between Greece and Turkey following the 1999 earthquakes, few cases have received similar scholarly attention. While that case belongs to the recent past, an even more intriguing instance for the study of disaster diplomacy is the Skopje earthquake of 1963.

Nevertheless, several strands of research emphasize the potential of disasters to foster temporary cooperation in a region still characterized by political fragility and unresolved disputes. At the institutional level, mechanisms such as the European Union Civil Protection Mechanism (UCPM) and NATO's Euro-Atlantic Disaster Response Coordination Centre (EADRCC) have played key roles in supporting Balkan states during major crises. These frameworks provide not only material assistance, but also platforms for coordination, capacity building, and joint training exercises. Their involvement demonstrates that humanitarian aid can simultaneously serve as both a humanitarian necessity and a diplomatic instrument, integrating the Western Balkans into broader Euro-Atlantic frameworks of security and resilience.

Beyond EU and NATO structures, one of the most significant regional initiatives has been the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE)⁴, established in Sarajevo in 2000. DPPI SEE represents a regional cooperation platform that brings together Western Balkan countries and their partners to strengthen disaster risk reduction, civil protection, and crisis management capacities.

Unlike externally driven frameworks led by Brussels or NATO headquarters, DPPI SEE is regionally owned and designed to promote a sense of solidarity and shared responsibility among neighboring states. Its programs—including joint training,

3 The 2014 Balkan floods marked a turning point in practical regional cooperation, with Serbia, Bosnia and Herzegovina, and North Macedonia exchanging rescue teams for the first time.

4 Memorandum of Understanding on the Institutional Framework of the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE) – signed in 2007 in Zagreb.

exchange of expertise, and field and simulation exercises—have built trust networks among civil protection authorities across the region.

DPPI SEE⁵ has also contributed to creating a regional environment of disaster diplomacy, where cooperation is not necessarily tied to political agreements, but rather to a shared humanitarian imperative. By building professional and institutional cross-border linkages, this initiative complements the work of the EU and NATO, while simultaneously addressing the local context and regional sensitivities of the Western Balkans⁶.

The Sarajevo-based initiative illustrates that preparedness and disaster response can function as mechanisms for confidence-building, in line with the EU's emphasis on good-neighborly relations as a prerequisite for integration.

However, despite these efforts, cooperation has remained largely pragmatic rather than transformative. Assistance and coordination are often conceived as immediate responses to crises rather than as sustainable strategies for reconciliation or conflict resolution. The challenge, therefore, lies in translating short-term solidarity into long-term institutionalized cooperation that could gradually reduce political mistrust.

In this regard, DPPI SEE—working in synergy with EU and NATO mechanisms—represents an important, yet still underestimated platform for integrating disaster diplomacy into the broader agenda of regional stability and Euro-Atlantic integration.

4. Case Selection and Methodological Approach to Crisis Diplomacy

This paper employs a qualitative comparative case study methodology to explore the role of disaster diplomacy and solidarity in shaping interstate relations among the countries of the Western Balkans. Given the complexity of the region's political dynamics, a qualitative approach allows for a deeper and more nuanced understanding of how natural disasters intersect with diplomacy, conflict histories, and regional cooperation frameworks.

5 It is worth noting that this initiative originated from the Regional Cooperation Council (RCC); however, it still lacks a clearly defined diplomatic status, as there has been a delay in the approval of the Memorandum by Bosnia and Herzegovina, which serves as a prerequisite for several other member states to proceed with its ratification.

6 North Macedonia has been the host of two major events where NATO and the EU show their diplomacy in crisis. NATO Exercise "NORTH MACEDONIA 2021", co-organised by NATO's Euro-Atlantic Disaster Response Coordination Centre (EADRCC) and the Crisis Management Centre of North Macedonia is being conducted as of today – 20 - 23 September 2021 in the area of Ohrid and Struga, North Macedonia. The exercise held from 19 to 21 March 2024, in Skopje and the surrounding forest areas of the village of Kučkovo, in North Macedonia, wraps up the activities addressing the forest fire module of the European Project "EU Support to Flood Prevention and Forest Fires Risk Management in the Western Balkans and Turkey" - IPA FF. The project is funded by the European Commission (DG ECHO) and is part of the Instrument of Pre-Accession (IPA) programs designed to support candidate and potential candidate countries on their accession journey to the European Union.

Four major disaster events are selected for comparative analysis, based on their regional impact, level of international attention, and involvement of multiple Western Balkan states and the wider region:

- a) The 2014 regional floods, which affected Serbia, Bosnia and Herzegovina (BiH), and Croatia, triggering widespread cross-border humanitarian responses;
- b) The 2019 earthquake in Albania, which mobilized assistance from neighboring countries including Kosovo, Serbia, and North Macedonia;
- c) The COVID-19 pandemic (2020–2022), which simultaneously exposed the limitations and opportunities of health diplomacy and vaccine distribution across the region;
- d) Forest (mountain) fires over the past decade, affecting nearly all Western Balkan countries and activating both the EU Civil Protection Mechanism (UCPM) and bilateral requests for mutual assistance.

These cases were chosen for their diversity (hydro-meteorological, relief-related, geological, biological), scale of impact, and diplomatic outcomes. Together, they provide a representative overview of events that have tested the resilience and solidarity of the Western Balkans.

The analysis is built upon a combination of primary and secondary sources, including:

- Official statements, press releases, and policy documents from national governments, the European Union (EU), NATO, and the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE);
- Media reports and investigative journalism from regional and international outlets;
- Academic literature on disaster diplomacy, crisis response, and Balkan politics;
- Reports and policy documents from international organizations, research institutes, and NGOs operating in the region.

These sources are triangulated to assess both the discourse of solidarity and public diplomacy (e.g., statements, messages of gratitude, cooperation narratives) and the practical outcomes (e.g., delivery of aid, bilateral visits, institutional cooperation).

The cases are analyzed through a three-part theoretical framework, outlined in Section 2:

- Theory of Disaster Diplomacy – to assess whether disasters have served as catalysts for diplomatic dialogue or reconciliation;
- Concept of Solidarity in Crisis – to analyze the ethical and humanitarian dimensions of cross-border assistance, and to evaluate whether these responses reflected genuine empathy or strategic interests;
- Framework of Good Neighborly Relations – as defined by the EU enlargement criteria and international norms, to measure whether cooperation during disasters contributed to regional integration and long-term trust-building.

By applying this framework to each case, the analysis aims to determine whether and how disaster responses in the Western Balkans have generated opportunities for short-term humanitarian cooperation, and whether the demonstrated solidarity has had a lasting diplomatic impact on the relations among the states in the region.

5. Case Studies of disasters and role of diplomacy

This section presents a comparative analysis of four major disaster events in the Western Balkans: the 2014 floods, the 2019 earthquake in Albania, the COVID-19 pandemic, and the recent forest fires that affected all countries of the region. Each case is examined through the theoretical lenses of disaster diplomacy, crisis solidarity, and good-neighbourly relations, aiming to assess whether and how these events have fostered cooperation among the states of the region.

5.1. The Western Balkans Floods (2014)

In May 2014, severe floods devastated large parts of Serbia, Bosnia and Herzegovina (BiH), and Croatia, causing significant human loss and economic damage. The disaster triggered a strong regional and international response, with neighbouring countries offering assistance, rescue teams, and logistical support. Serbia and Bosnia, despite their complex post-war relations, coordinated rescue and relief efforts, while Croatia, though less affected, provided material support and technical equipment. The floods prompted open gestures of gratitude and rare moments of regional unity. For instance, Serbian and Bosnian officials jointly visited the affected areas, delivering strong messages of regional solidarity.

The EU Civil Protection Mechanism (UCPM) was activated, while the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE) facilitated information exchange and cross-border coordination. These frameworks played an essential role in organizing the response. Despite the high level of humanitarian assistance, cooperation remained pragmatic rather than strategic. No concrete steps were taken to institutionalize the solidarity demonstrated during the crisis. The 2014 floods proved that the region can unite in the face of immediate disasters, but the political and diplomatic impact of such cooperation was short-lived.

5.2. The Albania Earthquake (2019)

On 26 November 2019, a powerful earthquake struck Albania, causing over 50 fatalities and displacing thousands of people. The event generated a wave of regional assistance, including from countries with historically strained relations. The Republic of North Macedonia⁷ was among the first to respond, sending a trained rescue team supported by French-trained units from the Directorate for Protection and Rescue. Serbia and Kosovo both dispatched rescue teams and humanitarian aid to Albania — an unusual

⁷ North Macedonia's response coordination center was among the first in the region to link with the EU's ERCC (Emergency Response Coordination Centre).

development given the tense relations between Belgrade and Pristina. Likewise, other neighbouring countries such as Croatia and Montenegro provided immediate assistance.

Messages of condolences and support from Serbian President Aleksandar Vučić were widely reported in the media and interpreted as a rare moment of diplomatic warmth between the two countries. Although DPPI SEE was not at the centre of the response, coordination occurred through bilateral and multilateral informal channels, as well as through UN agencies and EU mechanisms. The solidarity shown helped improve public perceptions among citizens and elites, particularly between Albania and Serbia. However, no sustained political change was observed. The Albanian earthquake demonstrated the symbolic power of crisis solidarity but also its limitations in producing lasting diplomatic transformation.

5.3. *The COVID-19 Pandemic (2020–2022)*

The COVID-19 pandemic represented a prolonged and complex crisis that affected every country in the Western Balkans. Unlike sudden-onset natural disasters, the pandemic required sustained cooperation in public health and resource management. In the early phases, regional coordination was weak. States unilaterally closed borders and competed for medical supplies. Serbia procured and distributed vaccines from China (Sinopharm), Russia (Sputnik V), and the EU, emerging as a “regional vaccination hub.” It donated vaccines to North Macedonia, Montenegro, and Bosnia — an act presented as solidarity but also interpreted as an exercise in soft power projection.

Although frameworks such as DPPI SEE and the Regional Cooperation Council (RCC) exist, pandemic responses remained fragmented and nationally driven. The EU’s delayed assistance initially provoked frustration but was later offset through the COVAX mechanism and direct support. The pandemic underscored regional asymmetries and geopolitical rivalries, hindering long-term cooperation. While moments of solidarity emerged, they were overshadowed by nationalism and political competition. The COVID-19 crisis highlighted the fragility of regional solidarity during prolonged emergencies, where national interests prevailed over collective action.

5.4 *Forest Fires Across the Western Balkans*

Over the past decade, the Western Balkans have witnessed a marked increase in the frequency and intensity of forest fires, driven by climate change, prolonged droughts, inadequate preventive infrastructure, and, in some cases, deliberate arson. Virtually all Western Balkan countries, as well as Greece and Turkey, have experienced major wildfires that have not only caused environmental and economic losses, but also tested regional mechanisms of cooperation and solidarity.

The summer seasons of 2017, 2021, and 2023 stand out as among the most destructive in recent memory, with thousands of hectares of forests burned along the Adriatic coast and in inland mountainous areas. These fires often exceeded national response capacities, compelling affected countries to request assistance from neighbours and international partners. Despite political divisions, affected countries often relied on mutual support through civil protection agencies and international coordination mechanisms, such as the EU Civil Protection Mechanism (UCPM) and the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE).

For example, during the 2021 fire season, Serbia and North Macedonia⁸ sent aircraft and firefighting teams to assist Montenegro and Albania, reflecting a renewed spirit of regional solidarity in the face of environmental crises. DPPI SEE, headquartered in Sarajevo, has increasingly incorporated wildfire management and prevention into its joint training and simulation programmes. These initiatives have strengthened interaction and trust among civil protection services, demonstrating the potential of disaster diplomacy when accompanied by practical cooperation.

However, regional responses to wildfires remain largely reactive rather than proactive. Many countries lack sufficient aerial firefighting capacities, early warning systems, and coordinated cross-border management plans. Furthermore, bureaucratic and political obstacles often delay assistance, reducing the effectiveness of joint action⁹.

The wildfire response model in the Western Balkans illustrates the dual nature of regional solidarity — strong humanitarian and professional cooperation at the operational level, yet limited transformation at the political level. Like floods and earthquakes, wildfires create short-term opportunities for improving good-neighbourly relations, but without sustainable institutionalization, their diplomatic impact remains limited.

⁸ In accordance with Decision No. 1313/2013/EU of the European Parliament and of the Council of 17 December 2013, on 28 March 2023 a new Agreement on the Participation of the Republic of North Macedonia in the Union Civil Protection Mechanism (ref. Ares (2023)2227100 - 28/03/2023) was signed. By signing this Agreement, continuous integration and exchange of resources and expertise with the Member States of the European Union is ensured. At the same time, this agreement annuls the previous one dated 31 October 2014.

⁹ Forest fires in North Macedonia and Greece in 2021 revived bilateral cooperation despite ongoing regional disputes.

Table 1: Comparative Overview

Case	Type of Disaster	Level of Solidarity	Institutional Involvement	Long-Term Diplomatic Impact
Floods 2014	Sudden-onset natural disaster	High (multilateral)	Strong (EUCPM, DPPI SEE)	Low
Earthquake 2019 (Albania)	Sudden-onset natural disaster	High (symbolic, bilateral)	Limited	Low to moderate (symbolic trust)
COVID-19	Prolonged health crisis	Mixed (assistance and competition)	Weak	Very low (geopolitical fragmentation)
Forest Fires	Prolonged natural/human-induced disaster	Medium (multilateral)	Strong (UCPM, DPPI SEE, ERDAC)	Low to moderate (symbolic trust)

All four cases demonstrate that, while natural disasters can stimulate short-term expressions of solidarity in the Western Balkans, their diplomatic impact remains constrained by:

- the depth of existing political disputes;
- the absence of institutional follow-up after crises;
- the instrumentalization of humanitarian aid by external actors.

Nonetheless, each event also reveals that crisis response opens small diplomatic windows in which empathy, trust, and cooperation can be fostered — particularly when supported by institutional mechanisms such as DPPI SEE and the EU Civil Protection Mechanism.

6. Discussion and Analysis of the Case Studies

The four analyzed cases — the 2014 floods, the 2019 earthquake in Albania, the COVID-19 pandemic, and the recent decade's wildfires — reveal a recurring pattern in how Western Balkan states respond to crises: while disasters often generate moments of solidarity, they rarely lead to long-term diplomatic transformation. This section examines the significance of these patterns in relation to the three theoretical frameworks mentioned earlier: disaster diplomacy, crisis solidarity, and good neighborly relations¹⁰.

According to the theory of disaster diplomacy, such events can create temporary windows of cooperation but rarely alter the structural conditions underlying political

10 The North Macedonian case reflects a successful example of small-state adaptability through strategic use of regional frameworks.

tensions. This hypothesis finds strong support in the Western Balkan cases. During both the 2014 floods and the 2019 earthquake, states responded with immediate assistance and cooperative gestures, temporarily setting aside historical disputes. However, these actions did not translate into sustainable diplomatic progress. Unresolved issues — such as Kosovo's status, ethnic divisions in Bosnia, and border disputes — resurfaced shortly after the crises subsided.

This outcome reinforces Kelman's (2012) argument that disasters can generate short-term goodwill, but do not transform deep-rooted political conflicts. In this sense, disaster diplomacy in the Balkans remains more reactive than strategic — focused on crisis management rather than conflict resolution.

Although political progress is limited, the cases demonstrate that disaster responses can generate meaningful expressions of humanitarian solidarity, particularly at social and institutional levels. The moral dimension of solidarity, as described by Habermas and Bayertz, was visible in gestures such as Serbia's aid to Albania or Kosovo's support during the 2019 earthquake. These moments created a reciprocal recognition of vulnerability, even if only temporarily.

However, solidarity was not always purely altruistic. During the pandemic, Serbia's vaccine diplomacy also served as an instrument of soft power projection, especially in the context of the EU's delayed vaccine supply. This indicates that solidarity possesses a dual nature — simultaneously a moral principle and a strategic diplomatic tool. This duality makes it flexible but also ambiguous, as it can foster empathy and trust while also being perceived as a political instrument, potentially undermining its credibility.

One of the most significant findings of this analysis is the underutilization of the existing regional and multilateral mechanisms. Structures such as the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE), the EU Civil Protection Mechanism (UCPM), and NATO's Euro-Atlantic Disaster Response Coordination Centre (EADRCC) have the capacity to institutionalize cooperation, yet their role in long-term diplomatic developments remains secondary.

During the 2014 floods, these institutions played a coordinating and supportive role, but their momentum was not sustained after the crisis. In the 2019 earthquake, the response was dominated by bilateral channels rather than by stable regional structures. The COVID-19 pandemic revealed the absence of an effective regional health mechanism despite the existence of platforms, such as DPPI SEE and the Regional Cooperation Council (RCC).

In the case of wildfires, we can state with somewhat greater confidence that the response to requests for assistance was faster and not merely symbolic, again demonstrating that the region is not only capable of conflict, but also of cooperation. This cooperative spirit in combating wildfires, perhaps due to their intensity and geographic scope, was more bilateral in nature than the result of a broader strategic regional diplomacy.

This suggests that while institutional capacities exist, they are not politically empowered to lead regional integration through crisis cooperation. The absence of “institutional memory”—the ability to learn from past experiences and build lasting structures—remains a critical gap.

Good neighborly relations are a fundamental prerequisite for EU and NATO membership. Disasters, in this sense, offer a concrete opportunity to demonstrate this principle in practice. Countries engaging in humanitarian solidarity during crises enhance their diplomatic credibility and reinforce their image as responsible regional partners. Conversely, the absence of solidarity or the political instrumentalization of aid can deepen mistrust and slow down integration processes.

In this regard, the EU and NATO could play a more proactive role by stimulating and institutionalizing cooperation during crises as part of their enlargement and partnership policies. For example, integrating disaster cooperation indicators into the EU’s annual progress reports or NATO’s partnership criteria could increase the political value of coordinated crisis responses.

Disaster diplomacy in the Western Balkans does not unfold in isolation. External actors—particularly the EU, Russia, China, and Turkey—use crisis-related aid as an instrument of geopolitical influence projection. During the pandemic, the competition for influence through vaccine diplomacy highlighted regional divisions and the fragility of internal solidarity. This external dimension often complicates intra-regional cooperation efforts, as states tend to prioritize bilateral ties with global powers over regional structures.

Nevertheless, this dynamic also presents an opportunity for Western actors—particularly the EU and NATO—to rebuild diplomatic space through investments in regional solidarity mechanisms and rapid crisis-response frameworks.

Disasters in the Western Balkans consistently generate short-term cooperation and expressions of solidarity, particularly at the humanitarian level. However, the lack of long-term political will, the underutilization of regional institutions, and persistent geopolitical rivalries prevent these moments from evolving into lasting diplomatic progress.

To change this situation, solidarity must move from being symbolic to institutional—directly linked to regional and Euro-Atlantic goals and supported by sustainable strategies of political and institutional engagement.

7. Conclusions and Policy Recommendations

This paper has examined the role of disaster and solidarity diplomacy in promoting good neighborly relations among the Western Balkan states. Using a comparative case study methodology, four previously discussed cases were analyzed to assess their impact on diplomatic and humanitarian interactions within a region characterized by political fragmentation and a conflictual historical legacy.

The analysis confirms the central hypothesis of the study: natural disasters in the Western Balkans tend to generate short-term expressions of solidarity and cooperation,

but these moments rarely lead to sustainable diplomatic progress. Instead, crisis responses remain pragmatic, ad hoc, and driven more by immediate humanitarian needs than by long-term political strategies.

Some key patterns emerging from the analyzed cases include:

- Solidarity is the strongest during sudden natural disasters (e.g., floods, earthquakes, and wildfires), where the humanitarian impulse surpasses political tensions.
- Prolonged or politicized crises, such as the COVID-19 pandemic, tend to highlight regional divisions and geopolitical competition.
- Institutional mechanisms such as the EU Civil Protection Mechanism (UCPM) and the DPPI SEE can facilitate effective cooperation, but their potential remains underutilized and insufficiently linked to diplomatic objectives.
- External actors — including the EU, Russia, China, and Turkey — compete for influence through humanitarian aid and crisis management, further complicating the dynamics of regional cooperation.

In summary, disaster diplomacy in the Western Balkans is not a direct engine of relationship improvement but a complementary tool that can create humanitarian and symbolic spaces for practical cooperation and confidence-building.

To harness the long-term potential of disaster diplomacy in the Western Balkans, regional actors and the international community — particularly the European Union (EU)¹¹ and NATO — should move from reactive coordination to proactive institutionalization of crisis cooperation. Key policy recommendations include:

- Strengthening, elevating the diplomatic status, and expanding the role of the DPPI SEE as the main regional hub for disaster preparedness, crisis coordination, and joint training.
- Formalizing post-disaster diplomatic dialogues among affected states, facilitated by neutral actors such as the Regional Cooperation Council (RCC), OSCE, or EU delegations in the region.
- Integrating regional disaster cooperation into EU membership progress criteria and NATO partnership standards.
- Monitoring cross-border engagement during crises through the European Commission's annual progress reports and including such indicators as measures of political and institutional progress.
- Organizing multilateral disaster response simulations involving all Western Balkan states to build trust, coordination, and joint operational capabilities.
- Promoting EU- and NATO-funded civil protection exercises to improve institutional interoperability and strengthen regional professional networks.
- Establishing a regional crisis management fund jointly administered by national civil protection agencies and regional institutions.
- Such a fund would enable rapid response to disasters, equitable financial burden-sharing, and reinforcement of a shared sense of responsibility.

¹¹ Cooperation in disaster management can serve as a prelude to political reconciliation and EU accession readiness.

• The EU and its partners should provide fast, visible, and coordinated assistance during crises to counterbalance the influence of non-Western actors.

• Promoting transparency and coordination in vaccine diplomacy, medical aid, and post-disaster reconstruction to prevent the political instrumentalization of solidarity.

In this way, humanitarian solidarity will remain a tool of unity rather than a field of influence competition. Although disaster diplomacy cannot resolve the deep political conflicts of the Western Balkans, it constitutes a valuable entry point for building trust and practical cooperation.

The region's shared vulnerability to natural disasters is both a challenge and an opportunity:

• A challenge, because it exposes structural weaknesses and a lack of coordination;

• An opportunity, because it opens new spaces for humanitarian interaction and practical diplomacy.

If properly utilized — through sustainable investments, institutional support, and continuous political engagement — solidarity in crisis can evolve from a temporary gesture into a lasting pillar of regional trust, contributing to stability, reconciliation, and the Euro-Atlantic integration of the Western Balkans.

REFERENCES:

Bayertz, K. (1999). Four uses of "solidarity". In K. Bayertz (Ed.), Solidarity (pp. 3–28). Springer.

Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE). (n.d.). About us. <https://www.dppisouth.org>

European Commission. (2014). EU Civil Protection Mechanism activated for flood-hit Western Balkans. <https://ec.europa.eu/echo/news>

European Commission. (2020). EU support for the Western Balkans in tackling COVID-19. <https://ec.europa.eu/neighbourhood-enlargement/news>

Habermas, J. (1990). Moral consciousness and communicative action. MIT Press.

<https://cuk.gov.mk/>

<https://racin.mk/vesti/objavena-e-publiczijata-solidarnost-od-nadminuvane-na-krizi-do-odrzhliv-razvoj/>

<https://www.dzs.gov.mk/Default.cshtml>

Kelman, I. (2007). Disaster diplomacy: Can disaster really build peace? Oxford University Press Blog.

Kelman, I. (2012). Disaster diplomacy: How disasters affect peace and conflict. Routledge.

NATO Euro-Atlantic Disaster Response Coordination Centre (EADRCC). (2020). COVID-19 responses in partner countries. <https://www.nato.int/cps/en/natolive/105995.htm>

Petrović, P. (2021). Crisis Cooperation in the Western Balkans: Myth or Reality? Balkans in Europe Policy Advisory Group (BiEPAG). <https://biepag.eu>

Regional Cooperation Council. (2020). Balkan Barometer 2020: Public opinion survey. <https://www.rcc.int/pubs>

United Nations Office for the Coordination of Humanitarian Affairs (OCHA). (2020). COVID-19 response plan: Western Balkans. <https://reliefweb.int>

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MITIGATING THE THREAT: EMERGING TRENDS AND CHALLENGES IN COUNTERING SMALL UNMANNED AIRCRAFT SYSTEMS (SUAS) ON THE MODERN BATTLEFIELD

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Abstract: *The rapid proliferation of small unmanned aircraft systems (sUAS) on modern battlefields has created an urgent need for counter-small unmanned aircraft systems (C-sUAS) to degrade their capabilities and preserve friendly forces' combat power. However, the implementation of C-sUAS faces multiple complex challenges. Threats are inexpensive and abundant, while defensive platforms-both conventional and emerging detection and strike systems-are limited in quantity and considerably more expensive. Additionally, the continuous evolution of sUAS through technical and tactical innovation demands corresponding and adaptive responses in C-sUAS capabilities. This article examines the challenges of acquiring a universal and highly effective C-sUAS solution within the constraints of limited acquisition budgets for the anticipated number of systems, the congested battlefield, and the imperative to prioritize critical assets for defense. Through a SWOT analysis of both SUAS threats and current C-sUAS technologies, it argues that no universal C-sUAS solution is currently available and that effective C-sUAS defense requires an integrated system-of-systems approach comprising different detection and engagement capabilities for a comprehensive, multi-layered C-sUAS architecture that effectively counters the evolving sUAS threat while ensuring operational efficiency and resource sustainability.*

Keywords: *small unmanned aircraft system (s-UAS), counter-small unmanned aircraft system (C-sUAS), C-sUAS kill chain, air defense, sensors, kinetic effectors, non-kinetic effectors.*

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Introduction

The proliferation of Small Unmanned Aircraft Systems (sUAS) in the past decade triggered a new “drone revolution” in modern warfare. According to a 2019 estimate by the Center for the Study of the Drone at Bard College, the number of countries using UAS of any type has increased by an estimated 58 percent over the past decade. Out of the ninety-five countries with UAS in their inventory, eighty-five operated sUAS, and 107 of the 171 total UAS types were sUAS (Gettinger 2019, pp. 19-20). This trend is expected to keep growing in the future.

sUAS demonstrated their versatility on global battlefields by providing target acquisition (TA), indirect fire adjustment, and post-strike battle damage assessment (BDA), and facilitated accurate intelligence and real-time situational awareness for battlefield commanders. Many inexpensive sUAS were modified and equipped with explosives, hand grenades, anti-tank grenades, and mortar rounds, serving in direct attack roles with devastating effects on enemy personnel, and more expensive equipment such as tanks, artillery, and air defense systems. The widespread employment of sUAS by a diverse range of state or violent non-state actors emphasizes the growing democratization of these technologies. At the same time, their combat effectiveness ensures that sUAS will become ubiquitous on 21st-century battlefields.

The rapid proliferation of sUAS can largely be attributed to the rapid growth of the commercial drone sector, both civilian and military, and advancements in contributory technologies, particularly electronics miniaturization, airframe robustness, and enhanced battery durability, which have triggered significant improvements in sUAS’s payload capacity, endurance, and range. Additionally, simple and inexpensive drone components, which are easily available through commercial supply chains, are key reasons why resource-scarce state militaries and violent non-state groups, including different insurgent, terrorist, and criminal organizations, drug cartels, militias, and mercenaries, see sUAS as an affordable and cost-effective option to acquire, develop, and employ advanced military capabilities.

Hamas and Hezbollah were forerunners regarding innovations in sUAS employment, primarily in conducting surveillance, reconnaissance, attacks, and propaganda. However, the Islamic State (IS) took a step further, particularly regarding sUAS weaponization (Öz and Sert 2019, p. 699). The IS conducted bold operations with weaponized drones and targeted governmental and coalition installations and critical infrastructure. One of the most prominent attacks occurred in January 2018 when thirteen low-tech bomb-laden drones attacked the Hmeimim air base and the nearby naval base of Tartus in northwestern Syria. In Yemen, the Ansar-Allah (Houthi movement) has effectively integrated indirect fire assets, including rocket launchers and ballistic missiles, with weaponized commercial sUAS to conduct precision strikes on domestic military bases and cross-border critical infrastructure like civilian airports and energy infrastructure in Saudi Arabia and the United Arab Emirates (Nevola and D’Hauthuille, 2024).

The pursuit for a low-cost, high-impact asset in the current Russo-Ukrainian war, that reduces the cost-to-target ratio by exploiting cost disparities against their targets, has resulted in the extensive adoption of sUAS and FPV (First Person View) drones. These cheap, mass-produced, and easily assembled drones have demonstrated their adaptability by performing a variety of missions, completely transforming how sUAS are used, while surpassing the traditional military UAS in relevance.

Finally, footage of these attacks, captured by sUAS platforms, was disseminated via social media as a propaganda tool to diminish the capabilities of enemy forces and undermine their morale, negatively impacting the confidence in their ability to defend against such strikes or creating fear among the civilian population, weakening their trust in the government's ability to provide security. On the other hand, successful attacks broadcast over the internet enhance one's morale and gain approval among cause supporters, enabling the recruitment of new followers and fighters.

Recent studies demonstrate that effective C-sUAS solutions are lacking because most systems are still in the developmental phase, especially those dealing with autonomous drones driven by artificial intelligence (AI) or a coordinated swarm of drones (Dobia 2023). An effective C-sUAS approach requires a cohesive, multi-layered defense that involves different types of sensors (radars, electro-optical, acoustic, radio frequency) and effectors (kinetic or non-kinetic) (Shaikh et al. 2023; Sharma 2022). These new technologies, especially high-energy lasers and high-power microwaves, exceed the performance of conventional munitions such as bullets and missiles. These new effectors have arisen as a cost-effective solution in reducing operational costs (Dobia 2023).

Small UAS definition

The UAS comprises the following key components:

- **unmanned aircraft** (fixed or rotary wing aircraft with propulsion, navigation, and data links),
- **payload** (equipment to accomplish the specific mission, which includes a variety of sensors (electro-optical (EO), infrared (IR), synthetic aperture radar (SAR), ground moving target indication (GMTI), signals intelligence (SIGINT), electronic attack (EA), full motion video (FMV), and still frame imagery), communications payload, weapons, and cargo),
- **human element** (human interface to guide the UAS throughout the mission),
- **control element** (manages all mission functions from the ground control station (GCS),
 - **display** (visualizes information to the operator),
 - **communication architecture** (line-of-sight (LOS) or beyond-line-of-sight (BLOS) data transmission and reception), and
- **life-cycle logistics** (tools necessary to maintain the UAS operational) (HQDA 2024, p. 80; US Army UAS COE 2010, pp. 8-11).

Army Training Publication 3-01.81, Counter-Unmanned Aircraft System (C-UAS) (2023, pp. 10-11) classifies UAS into five groups based on weight, operating altitude, and airspeed. sUAS are specific groups of UAS that encompass all UAS that fall into groups 1 and 2.

Table 1: US Army UAS groups and most notable representatives

Group	Weight	Normal Operating Altitude	Speed	Representative types of UAS
Group 1 Micro/Mini	< 20 pounds (<9 kg)	< 1200 above ground level (AGL) (<366 m)	<100 knots (<51.4 m/s)	RQ-11B Raven DJI Mavic DJI Phantom 3 Enterprise Dual Black Widow
Group 2 Small Tactical	< 20 pounds (<9 kg)	< 3500 AGL (<1067 m)	<250 knots (<128.6 m/s)	Scan Eagle Orlan-10 Skylark
Group 3 Tactical	<1320 pounds (<598 kg)	< 18000 mean sea level (MSL) (<5486 m)	Any airspeed	RQ-7B Shadow Shahed-131/136 Hermes 450
Group 4 Strategic or theater	>1320 pounds (>598 kg)	MQ-5C E-Hunter Forpost MQ-1C Gray Eagle MQ-1A/B Predator Yilong 1		
Group 5 Strategic		> 18000 MSL (>5486 m)		MQ-9 Reaper RQ-4 Global Hawk Wing Loong II Heron

Source: created by the author using (HQDA 2023) and (Shaikh et al. 2023)

NOTE: The conversion from imperial to metric values is calculated using (Metric Conversions 2025).

Group 1 UAS are small, lightweight, man-portable, hand-launched, commercial-off-the-shelf, radio-controlled platforms with modular payloads such as EO, IR, and

SAR. Despite their small logistical footprint, they operate for a brief period at low altitudes and within the operator's line of sight.

Group 2 UAS have small airframes with low radar cross-section. They are usually launched from unprepared sites. Their payload includes EO/IR sensors and a laser range-finder/laser designator (LRF/LD). Group 2 UAS have medium range and endurance, and their enhanced power enables the utilization of more sophisticated sensors with higher visual clarity and resolution. These systems have a medium logistical footprint with more unit resources for transport and sustainment. Group 2 UAS requires a line of sight to the ground control station.

UAS that belong to Groups 3, 4, and 5 are larger aircraft with medium to long-range endurance that fly at medium to high altitudes and require LOS or BLOS (usually satellite) communication, with their control element. These UAS are equipped with larger, multipurpose payloads, like EO/IR sensors, LRF/LD, SAR, GMTI, SIGINT, communication relays, and weapons, which considerably increase their logistical requirements. They also require specialized catapults and prepared runways for takeoff and landing. Unlike sUAS, these UAS have larger airframes, resulting in a higher radar cross-section, which makes them more susceptible to detection and thereby increases their vulnerability to counteraction by integrated air and missile defense systems.

Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis

The SWOT analysis below describes the operational advantages and disadvantages of employing sUAS instead of larger UAS and manned aircraft.

Strengths

Because of their reduced radar signatures and ability to fly at extremely low altitudes, sUAS are difficult to detect and defeat by potential enemy counterfire. sUAS have lower acquisition and operational costs, are simple to manufacture, and do not require complex training for their operators. The size and flight characteristics of sUAS produce a uniquely adaptable platform capable of operating discreetly in insecure areas in multiple mission sets while minimizing risk to the operator (dull, dirty, and dangerous missions). Additionally, First Person View (FPV) sUAS with attack capabilities provide a lower cost-to-target ratio by capitalizing on the cost asymmetry against the targets they are designed to destroy. FPV sUAS priced at just a few hundred dollars can effectively target military equipment worth thousands, or even millions of dollars. Finally, payload versatility resulting from the ability to mount different types of sensors and weapons enhances sUAS flexibility to conduct wide-ranging missions while severely shortening the targeting process and reducing the “find-fix-finish” loop.

Weaknesses

sUAS carry smaller payloads, which limits the number of sensors and weapons they can carry simultaneously. Smaller weapon payloads result in an inability or difficulty to effectively destroy heavily armored vehicles. However, smaller weapon payloads have proven effective against soft-skinned vehicles, dismounted troops, and troops hiding in trenches or fortified objects. sUAS have shorter operational ranges due to limited battery life and usually operate at closer distances than larger UAS. They are highly affected by weather and face limitations while conducting missions in adverse conditions such as fog, strong winds, or heavy rain. Additionally, their datalinks are easily prone to jamming, and because of their low speed, they are vulnerable to contemporary, network-centric, layered air defense. Ultimately, if a sUAS is lost or deemed unrecoverable, it can jeopardize friendly forces' operational security because the enemy can obtain information about the aircraft's operating frequencies and pinpoint the location of its ground control station.

Opportunities

The proliferation and widespread use of sUAS will continue to grow, as high-tech components become more accessible and affordable in the civilian market, enabling both state and violent non-state actors the capability to produce sUAS using commercially available parts. Advancements in new technologies, particularly in durable and resilient airframe materials, component miniaturization, and battery capacity, have significantly improved the characteristics of modern sUAS regarding their endurance and performance. sUAS can be embedded with various weapon systems to further increase their capabilities. For instance, combined with indirect fire systems, they can facilitate the targeting process through discrete TA or act as an airborne relay to enhance communications and increase the range of electronic warfare (EW) systems. A swarm of sUAS involving multiple aircraft with a shared mission and capable of autonomously modifying their behavior through communication with one another is a cost-effective way to saturate an adversary's air defense (Sharma 2022, p. 225). Ultimately, sUAS can record their destructive effects on enemy equipment and utilize the footage for propaganda purposes.

Threats

The specific bandwidth requirements of sUAS and their operating frequencies might conflict and interfere with the frequencies used by other weapon systems. Mass employment of sUAS, large UAS, and manned aircraft creates congestion on a contemporary battlefield, requiring detailed coordinating measures to deconflict ingress and egress routes and holding areas and enable the rapid identification of the aircraft as friend or foe to avoid fratricide.

In conclusion, sUAS represent valuable assets for state and non-state actors, as they offer flexibility in performing various missions and enhancing overall combat

capabilities. The ongoing technological advancements in modern sUAS, combined with military planners' awareness for detailed coordination with additional military enablers, seek to overcome their disadvantages and increase their survivability on the modern battlefield. As technological advancements progress, the sUAS capabilities will continue to expand, making them increasingly present on future battlefields.

The C-sUAS Kill Chain

A C-sUAS system is a system or combination of systems that is designed to detect, track, identify, and defeat or disable sUAS. They can be hand-held, fixed-site, or mobile (DOFE 2021, pp. 77-78). The effectiveness of C-sUAS largely depends on how swiftly each system can progress through the above-mentioned targeting cycle.

Detect. Early detection capability is crucial for effective C-sUAS platforms, as it allows sufficient reaction time to complete the targeting cycle before the adversary's system engages friendly targets. Detecting sUAS is challenging because they are small, have small radar cross-sections due to the composite materials built into their airframes, are relatively silent, and are highly maneuverable and agile. sUAS operators can conceal the aircraft and fly it in the vicinity of the designated objective, thus severely reducing the available time for sUAS detection and defeat. Detection is conducted either by visual observation or by different types of sensors, such as:

Radars. Radars are primary sensors that detect and track aerial threats. They can operate in adverse weather conditions and are less sensitive to enemy countermeasures than other sensors. However, even the most present-day radars have difficulties detecting an aerial threat with a small radar cross-section and low speed. They often misinterpret the aerial situation, especially when distinguishing between a bird and a sUAS. Radars are very heavy, require large power sources to operate, and emit signals that can be easily detected, located, and attacked by adversaries.

Passive Radio Frequency Scanners (PRFS). PRFS sensors receive and analyze signals used to control the sUAS. They have a pre-existing library of known sUAS radio signatures, allowing them to compare the signature received against the database to identify the aircraft. The biggest challenge for PRFS arises from the loitering ammunition, which does not rely on links with its control station and has pre-programmed automatic flight routes using onboard inertial navigation systems to reach its objective. C-sUAS designers often aim to combine radio frequency (RF) detection and radars within a single platform. The FS-LIDS (Fixed Site-Low, Slow, Small Unmanned Aircraft System Integrated Defeat System) is an example that combines both detection methods (Butterworth-Hayes and Beechener 2020), while EnforceAir relies entirely on RF for both detection and defeat (BSSHOLLAND, no date).

Electro-optical (EO)/infrared (IR) sensors. The EO sensor detects the target visually, whereas the IR sensor detects the target based on its heat signature. Both sensors depend on weather conditions and have a limited range. Ordinarily, EO/IR sensors are integrated with both active and passive radars for layered detection capability.

Acoustic sensors. These sensors detect aerial threats by detecting the sound signatures emitted by their motors. They can determine the sUAS type and approach route by comparing the received signature to information in a pre-built library of known sUAS sound signatures. The Discovair G2 model has a very short range of 500 m (Shaikh et al. 2023, p. 20), but its performance can be easily degraded by saturating the battlefield with noise.

Track. Tracking is the process of monitoring the threat's movement until a decision is made on whether to engage the target or not. To be successful, tracking should provide constant information on the threat's location over a period of time (HQDA 2023, p. 32). Radars, acoustic, and visual sensors enable concurrent monitoring of sUAS and offer real-time data on its location, speed, and altitude.

Identification. Identification is the process of determining the friendly or hostile characteristics of an unknown detected aerial target. Early identification allows for maximum engagement time and prevents fratricide (HQDA 2023, p. 32). Identification is challenging because most of the sUAS are not equipped with a friend-or-foe identification system (IFF).

Defeat. Defeat comprises the utilization of either kinetic (physical means such as missiles, projectiles, and nets) or non-kinetic effectors (non-physical means such as the electromagnetic spectrum) to render sUAS combat ineffective. Both effector types can achieve hard kill (physical destruction of the sUAS) or soft kill (disruption of the sUAS).

Kinetic effectors include:

Missiles/Projectiles. These include small arms, machine guns, anti-aircraft guns, and missiles. They have limited effectiveness when dealing with swarms of drones.

Entanglements. Designed to entangle and disable the sUAS by firing a net from an aerial platform within a range of up to 300 meters. Particularly effective against sUAS equipped with propellers.

Collision drone. Another UAS is intentionally guided to collide with the hostile sUAS.

Non-kinetic effectors achieve both hard kill and soft kill and include:

Lasers. High Energy Lasers (HEL) destroy sUAS by burning their vital components. They are cost-effective but have a very short range that heavily depends on the line of sight.

Microwaves. High-power microwave (HPM) uses high-energy microwaves to damage sUAS electronic components. HPM is very effective against swarms of sUAS. On the other hand, they have a short range and can influence friendly electronic systems in the area.

Radio-frequency (RF). RF is used to jam or spoof sUAS communication links (radio frequency or satellite). Jamming disrupts the link between the sUAS and its operator. Most sUAS operate within the Wi-Fi frequency range (2.4 GHz to 5.8 GHz) (Dobia 2023, p. 79). Once the link is disrupted, the sUAS will become disoriented and

are bound to either go down, retreat, or defy. Spoofing involves sending fake commands to take control of or misguide the sUAS. RF effectors are cost-effective but can influence friendly electronic systems and communications.

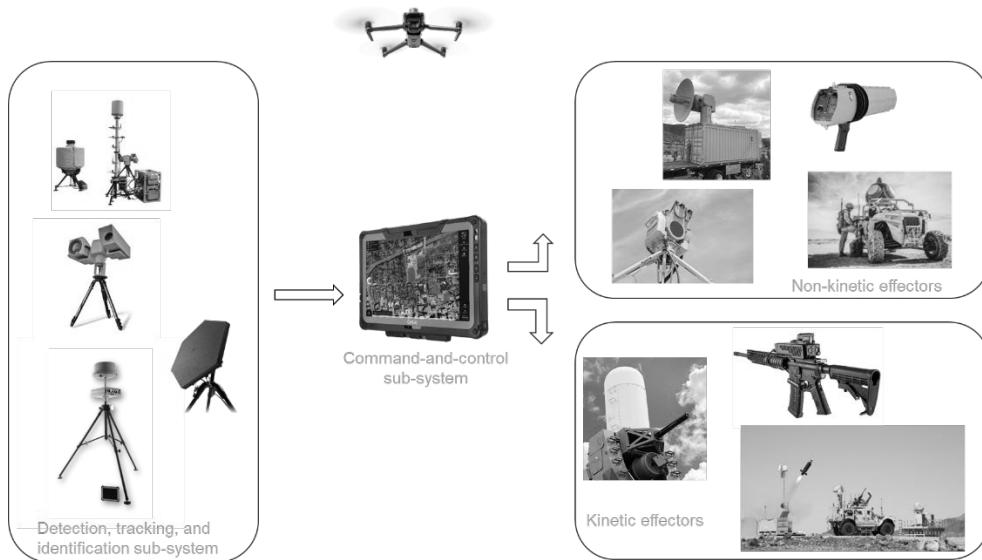


Figure 1. C-sUAS system

Source: Created by the author

A way ahead

Constant improvements in the sUAS technology hinder the development of a universal solution to the C-sUAS challenge. Although many countries are developing different systems based on various effectors, no effective C-sUAS platform has risen on the horizon. To be effective, C-sUAS systems consider several important sUAS characteristics, including their radar signature, propulsion type, guidance method, ceiling, range, endurance, and types of payloads they can carry.

Planning for an effective and efficient C-sUAS should overcome the “silo effect” and avoid compartmentalization between different actors on the battlefield. Until recently, air defense units were considered the principal executors of counterair missions. Nonetheless, sUAS represent a new threat that exploits air defense weaknesses, particularly gaps in detection and cost disparities. Air Defense (AD) systems have a limited ability to counter targets with small radar signatures that fly low with relatively low speeds. AD missiles are much more expensive than the sUAS, hence the price-to-effect ratio is paramount. No army in the world has enough AD assets to counter sUAS. Respectively, AD units should not be the sole bearers of the C-sUAS effort. It should

also include non-AD units in combined arms for air defense efforts. Electronic Warfare (EW) units are additional assets that can considerably contribute to the C-sUAS fight by complementing the AD and maneuver units. They provide versatile capabilities by applying non-kinetic effectors against the sUAS, its control element, or communication architecture.

The great number of C-sUAS produced nowadays has advantages and disadvantages regarding their range and ability to operate in adverse weather conditions. Ideally, a multi-layered C-sUAS defense that includes various systems capable of defeating different groups of UAS by incorporating kinetic and non-kinetic effectors for better efficiency and target destruction probability would complement C-sUAS's advantages. Another factor influencing the C-sUAS fight at the tactical level is the system's mobility. Generally, a fixed C-sUAS is more complex, has longer assemble and disassemble time, involves a larger number of personnel, and has a bigger logistical footprint. On the other hand, a mobile C-sUAS is simpler, has a shorter assemble/disassemble time, and most importantly, is capable of maneuvering alongside the supported unit, making it a preferable solution for a C-sUAS.

The C-sUAS command and control system must enforce decentralized execution to commanders on the ground, who will most likely be junior leaders with little or no combat experience. These commanders will have engagement authority based on centralized, pre-established rules of engagement. To achieve this, C-sUAS should be fielded organically to dedicated C-sUAS personnel in the lowest tactical echelon.

All units must also consider the implementation of passive C-sUAS measures as another imperative. They are the first line of defense against air threats, and their primary goal is to reduce the possibility of detection, observation, and attack of friendly units and assets. Some measures applied include camouflage and concealment, deception, dispersion of forces, displacement in low visibility conditions, and minimization of friendly radio, heat, and noise signatures.

Conclusion

The proliferation of sUAS is constantly increasing, while effective counter systems are lacking. Small procurement and operational costs, payload versatility, and lower training costs, accompanied by constant improvements in technology and miniaturization of components, will keep sUAS in the limelight of modern warfare for a long period ahead. Today's battlefield is congested, and no army has enough resources to protect all critical assets and important infrastructure from aerial threats, nor enough funds to acquire the necessary number of C-sUAS. Prioritizing defense against aerial targets is critical. A holistic, multi-layered C-sUAS defense emerges as a principal challenge for friendly forces seeking to enhance protection and freedom of movement.

Defeating a sUAS entails not only the physical destruction of the sUAS, but also defeating any of its components, such as the sUAS operator, ground control station, or communication link. Kinetic effectors are always reliable and suitable, but the cost

of sUAS destruction should be acceptable. Using expensive kinetic effectors against inexpensive aerial threats like sUAS is not prudent nor sustainable in the long term. On the other hand, non-kinetic effectors are cost-effective against sUAS, but they must keep up with the rapid advancements in sUAS technology to remain relevant.

C-sUAS capability emerges as an urgent need today to enhance force protection and allow for their freedom of action during operations. The acquisition of an operationally proven system is imperative for any army, and the DOTMLPF-P (Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, Policy) framework will provide the solution tailored to meet the essential requirements and develop the desired capability.

REFERENCES:

BSSHOLLAND (no date) Enforceair C-UAS. Available at: <https://bssholland.com/product/enforceair-counter-uas/> (Accessed September 15, 2025).

Butterworth-Hayes, Philip, and Beechener, Jenny (2020) “US Defence Agency Selects FS-LIDS as Interim Counter-SUAS Solution for Military”, Unmanned Airspace, 8 December. Available at: <https://www.unmannedairspace.info/counter-uas-systems-and-policies/us-defence-agency-selects-fs-lids-as-interim-counter-suas-solution-for-military/>.

Director, Operational Test and Evaluation (DOTE) (2021) Fiscal Year 2020 Annual Report. Washington, DC: United States Department of Defense, January. Available at: https://www.dote.osd.mil/Portals/97/pub/reports/FY2020/other/2020DOTEAnnualReport.pdf?ver=rvLsaCQ_njLmPDrNIFJBWQ%3d%3d.

Dobia, Konrad (2023) “Countering Unmanned Aircraft Systems (UAS) In Military Operations”, Safety and Defence, 9 (1), pp. 74-82. Available at: <https://doi.org/10.37105/sd.195>.

Gettinger, Dan (2019) The Drone Databook. Annandale-on-Hudson, NY: Center for the Study of the Drone, Bard College, Available at: <https://dronecenter.bard.edu/files/2019/10/CSD-Drone-Databook-Web.pdf>.

Headquarters Department of the Army (HQDA) (2024) Field Manual 1-02.1, Operational Terms. Washington, DC: Army Publishing Directorate. Available at: <https://irp.fas.org/doddir/army/fm1-02-1.pdf>.

Headquarters Department of the Army (HQDA) (2023) Army Training Publication 3-01.81, Counter-Unmanned Aircraft System (C-UAS). Washington, DC: Army Publishing Directorate. Available at: <https://irp.fas.org/doddir/army/atp3-01-81.pdf>.

Metric Conversions (2025) Metric Converter. Available at: <https://www.metric-conversions.org/converter.htm> (Accessed: 10 November 2025).

Nevola Luca, D'Hauthuille, Valentin (2024) “Six Houthi Drone Warfare Strategies: How Innovation Is Shifting the Regional Balance of Power”, Armed Conflict Location & Event Data (ACLED), 6 August. Available at: <https://acleddata.com/2024/08/06/six-houthi-drone-warfare-strategies-how-innovation-is-shifting-the-regional-balance-of-power/>.

Öz Tolga and Serkan Sert (2019) “The Present Role of Anti-Drone Technologies in Modern Warfare and Projected Developments.” *Güvenlik Stratejileri Dergisi*, 15(32), pp. 691-711. Available at: <https://dergipark.org.tr/en/download/article-file/911872>.

Shaikh Shaan, Karako Tom, and McLoughlin Michelle (2023) Countering Small Uncrewed Aerial Systems: Air Defense by and for the Joint Force. Washington, DC: Center for Strategic & International Studies. Available at: <https://www.csis.org/analysis/countering-small-uncrewed-aerial-systems>.

Sharma, Apratim (2022) “Counter-Unmanned Aircraft Systems (C-UAS)

Future of Warfare”, *Journal of Defence Studies*, 16 (4) pp. 221-241. Available at: https://www.idsa.in/system/files/jds/jds-16-4_Apratim-Sharma_13.pdf.

US Army Unmanned Aircraft Systems Center of Excellence (US Army UAS COE) (2010) Eyes of the Army: U.S. Army Roadmap for Unmanned Aircraft Systems 2010-2035. Fort Rucker, AL: US Army UAS Center of Excellence. Available at: <https://apps.dtic.mil/sti/tr/pdf/ADA518437.pdf>.

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STATE OF THE ART ON GLOBAL NAVIGATION SATELLITE SYSTEMS: A COMPARATIVE STUDY OF GPS, GLONASS, AND GALILEO

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Abstract: *Global Navigation Satellite Systems (GNSS) are essential for providing positioning, navigation, and timing (PNT) services in various fields such as aerospace, defense, transportation, and scientific research. The three primary GNSS: Global Positioning System (GPS, USA), Global Navigation Satellite System (GLONASS, Russia), and Galileo (European Union), vary in their architecture, frequency bands, signal structures, and levels of accuracy. This paper offers a comprehensive comparison, examining their technological advancements, performance, modernization initiatives, and future outlook. Furthermore, we assess the integration of multiple GNSS, emphasizing how hybrid receivers that utilize various constellations can achieve enhanced accuracy, resilience, and redundancy. Our analysis is based on a thorough literature review, which includes research studies, official technical documents, and performance reports, providing a detailed examination of each system's strengths, challenges, and practical applications.*

Keywords: *GNSS, GPS, GLONASS, Galileo, Satellite Navigation*

Introduction

Global Navigation Satellite Systems (GNSS) have transformed the way we approach positioning, navigation, and timing (PNT) in today's world. They play a crucial role across various sectors, including military operations, autonomous vehicles, geodesy, aerospace engineering, and telecommunications. By receiving radio signals from satellites in Medium Earth Orbit (MEO), these systems allow users around the globe to pinpoint their exact location anywhere on the planet. Over the last few

decades, GNSS has shifted from being a military-focused technology to an essential tool for civilians, facilitating everything from precision agriculture to global supply chain management.

The three primary GNSS: Global Positioning System (GPS, USA), Global Navigation Satellite System (GLONASS, Russia), and Galileo (European Union) each possess unique features, such as varying orbital configurations, signal processing techniques, and levels of accuracy. Their advancement has been fueled by national security needs, as well as by the growing global appetite for high-precision positioning solutions¹.

The idea of satellite-based navigation originated during the early Cold War era, when radio-based navigation systems were already in operation. Early systems like LORAN (Long Range Navigation) and OMEGA were commonly used, but they faced several challenges, such as inaccuracies caused by atmospheric conditions and reliance on ground-based transmitters. The launch of Sputnik 1 by the Soviet Union in 1957 showcased the potential for space-based positioning, setting the stage for the creation of GNSS².

In the 1960s, the first generation of satellite navigation systems was developed, mainly for military purposes. The United States Navy introduced the Transit system, which became operational in 1964 and offered position fixes every few hours through Doppler shift measurements. However, this system fell short for real-time positioning, prompting the need for more advanced global satellite navigation systems³.

The Global Positioning System (*GPS*)

The United States Department of Defense began developing GPS in 1973 to deliver real-time, high-precision global positioning for military use. The first GPS satellite was launched in 1978, and by 1995, the system reached Full Operational Capability (FOC) with a network of 24 satellites⁴. Key characteristics of GPS include:

- Orbital Configuration: 31 operational satellites in Medium Earth Orbit (MEO) at approximately 20,200 km altitude, with an inclination of 55°.
- Modulation Scheme: Binary Phase Shift Keying (BPSK), which supports the L1, L2, and L5 frequency bands.
- Error Sources: Delays caused by the ionosphere and troposphere, satellite clock drift, multipath interference, and geometric dilution of precision (GDOP).
- Modernization Efforts: The rollout of GPS III satellites, which offer enhanced accuracy, security, and anti-jamming features⁵.

1 Eissfeller, B., Ameres, G., Kropp, V., and Sanroma, D. (2007), Performance of GPS, GLONASS, and Galileo, University of the Bundeswehr Munich, Germany.

2 Langley, R. B. (1999), The GPS Observables, GPS Solutions, Fredericton, Canada.

3 Cai, C., and Gao, Y. (2013), GLONASS-Based Precise Point Positioning: Challenges and Opportunities, University of Calgary, Alberta, Canada.

4 Russian Space Agency (1998), GLONASS Interface Control Document Version 4.0, Moscow, Russia.

5 NovAtel Inc. (2007), GLONASS Overview, GNSS Technology Review, Calgary, Canada.

The Global Navigation Satellite System (GLONASS)

GLONASS, created by the Soviet Union as a response to GPS, was intended to offer independent global navigation for both Russian military and civilian users. The first GLONASS satellite was launched in 1982, and by 1996, a full constellation of 24 satellites in medium Earth orbit (MEO) was operational. However, following the economic turmoil of the post-Soviet era, GLONASS experienced significant degradation in the early 2000s. A comprehensive modernization program that began in 2004 helped restore the system's functionality⁶. Key characteristics of GLONASS include:

- Orbital Configuration: 24 satellites positioned in three orbital planes at an altitude of approximately 19,100 km, with an inclination of 64.8°.
- Modulation Scheme: Frequency Division Multiple Access (FDMA) used in earlier models, transitioning to Code Division Multiple Access (CDMA) in the GLONASS-K satellites.
- Accuracy: 5-7 meters for civilian users, and around 30 cm for military applications.
- Challenges: Greater vulnerability to frequency-dependent biases, necessitating enhanced signal integrity techniques⁷.

Galileo: Europe's Contribution to GNSS

The European Union developed Galileo as a civilian-controlled alternative to GPS and GLONASS, with the goal of boosting European independence in satellite navigation. Galileo reached its Initial Operational Capability (IOC) in 2016, and a complete constellation of 30 satellites is anticipated by 2025⁸. Key characteristics of Galileo include:

- Orbital Configuration: 24 operational satellites plus 6 spares in Medium Earth Orbit (MEO) at an altitude of 23,222 km, with an inclination of 56°.
- Modulation Scheme: Binary Offset Carrier (BOC), Alternative BOC (AltBOC), and BPSK.
- Unique Features: Galileo's High-Accuracy Service (HAS) provides sub-meter precision, and its dual-frequency signals help minimize ionospheric delays.
- Error Sources: Factors such as solar activity, urban multipath interference, and signal blockage in densely populated areas⁹.

⁶ European GNSS Agency (2020), Galileo Open Service Performance Standards, Prague, Czech Republic.

⁷ U.S. Department of Defense (2020), GPS III: Modernization Efforts and Technical Specifications, Washington, D.C., USA.

⁸ Sowinski, M. (2002), GLONASS Global Satellite System: Current Status and Development Plans, SGS Belgium, Brussels, Belgium.

⁹ Medvedkov, Y. (2002), Certification of the Global Satellite Navigation System (GNSS), International Institute of Air and Space Law, The Hague, Netherlands.

The Need for Multi-GNSS Integration

Each GNSS constellation has distinct advantages and drawbacks, which has led to the development of multi-GNSS receivers that combine signals from GPS, GLONASS, and Galileo to improve overall performance. These multi-GNSS solutions are especially useful in urban settings, where obstacles, multipath effects, and atmospheric disturbances can compromise accuracy¹⁰. Key benefits of multi-GNSS positioning systems include:

- Improved Accuracy: By integrating multiple GNSS signals, these systems can better correct atmospheric errors, enhancing precision.
- Increased Availability: A greater number of satellites in view decreases the chances of positioning failures in difficult environments.
- Resilience Against Jamming and Spoofing: Hybrid GNSS receivers can identify anomalies and maintain reliability during interference incidents¹¹.

Multi-GNSS has become standard in various fields such as autonomous navigation, surveying, aviation, maritime transport, and geodesy:

- Autonomous Vehicles: Self-driving cars depend on the integration of multi-GNSS with sensor-based localization to achieve lane-level accuracy.
- Aerospace and Aviation: GNSS plays a crucial role in enabling precise aircraft landing approaches and supporting air traffic control systems.
- Precision Agriculture: Farmers are using GNSS-based automated steering systems to enhance crop management efficiency¹².

The future of GNSS involves ongoing modernization initiatives, including:

- GPS III and Next-Gen GNSS: Enhancing accuracy and bolstering security against cyber threats.
- GLONASS-K2: Fully transitioning to CDMA-based signals.
- Galileo Expansion: Improving High-Accuracy Service (HAS) to provide centimeter-level precision for public users.
- Integration with 5G and AI: Utilizing machine learning for monitoring GNSS signal integrity and employing 5G networks for assisted GNSS positioning¹³.

Literature Review

The body of work on Global Navigation Satellite Systems (GNSS) is extensive and encompasses various subjects, such as historical milestones, signal processing methods, positioning precision, modernization initiatives, and the integration of multiple GNSS. This section offers a comprehensive review of GPS, GLONASS, and Galileo,

¹⁰ European Space Agency (2024), Galileo HAS: High Accuracy Service for Civilian Applications, Paris, France.

¹¹ Russian Institute of Space Device Engineering (2020), GLONASS-K and GLONASS-K2 Technical Review, Moscow, Russia.

¹² U.S. Naval Observatory (2019), GPS Time Synchronization and Atomic Clock Standards, Washington, D.C., USA.

¹³ Stehos, J., and Karpov, M. (2020), GLONASS Open Service Performance Standards, Russian Space Corporation Roscosmos, Moscow, Russia.

bringing together essential insights from research studies, technical papers, and industry reports. The review emphasizes the architectural distinctions, performance indicators, frequency ranges, techniques for improving accuracy, and sources of error within each system. Furthermore, we examine workflow models and provide tabulated comparisons to create a clear and organized overview¹⁴.

Literature review on the Global Positioning System (GPS)

The Global Positioning System (GPS) was created by the United States Department of Defense and reached Full Operational Capability (FOC) in 1995. The system has gone through several generations of satellites, each bringing enhancements in accuracy, anti-jamming features, and signal reliability.

- GPS Block I (1978-1985): This was the experimental phase, featuring 11 satellites.
- GPS Block II/IIA (1989-1997): This phase saw the launch of operational satellites equipped with improved atomic clocks.
- GPS Block IIR/IIR-M (1997-2009): This period marked modernization with the addition of L2C signals for civilian users.
- GPS Block IIF (2010-2016): Satellites in this block had a longer lifespan and introduced L5 signals.
- GPS III (2018-Present): The latest generation of satellites offers greater accuracy and better resistance to interference¹⁵.

The GPS constellation is made up of 31 operational satellites located in Medium Earth Orbit (MEO) at an altitude of approximately 20,200 km. Each satellite sends out signals across multiple frequency bands.

Table 1. GPS Signal Structure and Frequency Bands

Signal	Frequency (MHz)	Purpose
L1	1575.42	Civilian & military positioning
L2	1227.60	Dual-frequency correction
L5	1176.45	High-precision applications

14 Sarkar, S., and Bose, A. (2017), Comparative Analysis of GPS and GLONASS for Urban Navigation, Journal of Geospatial Research, Mumbai, India.

15 Eissfeller, B., Ameres, G., Kropp, V., and Sanroma, D. (2007), Performance of GPS, GLONASS, and Galileo, University of the Bundeswehr Munich, Germany.

Modernization efforts in GPS III feature L1C signals that improve interoperability with other GNSS systems¹⁶.

GPS accuracy has seen substantial enhancements due to the implementation of dual-frequency corrections and ground augmentation systems like SBAS, WAAS, EGNOS, and MSAS:

- Standalone GPS Accuracy: Civilian users can expect accuracy within 5-10 meters, while military applications achieve sub-meter precision.
- Real-Time Kinematic (RTK) Positioning: Offers centimeter-level accuracy by utilizing external reference stations.
- Augmented GPS (A-GPS): Leverages cellular networks to speed up signal acquisition¹⁷.

Literature Review on GLONASS

GLONASS was created by the Soviet Union in 1976, and the first satellite was launched in 1982. The system has gone through several phases:

- GLONASS (1982-2000): The initial deployment included 24 satellites, but the system faced degradation during the 1990s.
- GLONASS-M (2003-2017): This phase focused on modernization, enhancing accuracy, and improving signal stability.
- GLONASS-K (2018-Present): This phase introduced CDMA signals to ensure interoperability with GPS and Galileo¹⁸.

GLONASS distinguishes itself from GPS by employing Frequency Division Multiple Access (FDMA) in its earlier versions, as opposed to the Code Division Multiple Access (CDMA) used by GPS.

Table 2. GLONASS Signal Structure and Frequency Bands

Signal	Frequency (MHz)	Access Scheme
L1	1602	FDMA (legacy)
L2	1246	FDMA/CDMA
L3	1201	CDMA (GLONASS-K)

¹⁶ SpaceX Starlink Research Team (2024), Compatibility of Starlink with GNSS: Potential Interference and Solutions, Palo Alto, USA.

¹⁷ Ianc, A., and Tiberiu, C. (2022), Multi-GNSS Accuracy Assessment in Urban Environments, Journal of Navigation and Geodesy, Bucharest, Romania.

¹⁸ Kogure, S., and Furuno, K. (2018), The Impact of Multi-GNSS Integration on Positioning Accuracy, Tokyo Institute of Technology, Tokyo, Japan.

The newer GLONASS-K2 satellites are moving towards CDMA-based signals to enhance accuracy and ensure better compatibility with other GNSS systems.

GLONASS offers civilian users an accuracy of 5-7 meters, but it has encountered issues related to higher frequency-dependent biases and geometric dilution of precision (GDOP).

Additionally, GLONASS experiences quicker clock drifts than GPS because of the different atomic clock technologies used. The ongoing modernization efforts in GLONASS-K and GLONASS-K2 are focused on improving accuracy through the implementation of new signal processing techniques¹⁹.

Literature Review on Galileo

Galileo is a European GNSS initiative designed to offer high-precision navigation services for civilians. The system reached its Initial Operational Capability (IOC) in 2016 and is anticipated to be fully operational by 2025. Galileo signals are designed for higher resilience and accuracy²⁰.

Signal	Frequency (MHz)	Modulation
E1	1575.42	BPSK/BOC
E5a	1176.45	AltBOC
E5b	1207.14	AltBOC

Table 3. Galileo Signal Structure and Frequency Bands [5], [6], [7]

Galileo Accuracy and Advantages:

- Accuracy: Offers 1-meter accuracy for civilian users and sub-meter accuracy for authorized users.
- High-Accuracy Service (HAS): Delivers centimeter-level precision for commercial applications.
- Resilience: Galileo is built to function independently of GPS and GLONASS, ensuring strategic autonomy for Europe .

Workflow Diagram of GNSS Functionality

To illustrate the workflow of GPS, GLONASS, and Galileo, Figure 1 shows a standardized positioning process for multi-GNSS receivers.

19 Yang, H., and Liu, P. (2023), GNSS-Based Positioning Solutions for Autonomous Vehicles, IEEE Transactions on Intelligent Transportation Systems, Beijing, China.

20 Kumar, V., and Rao, B. (2021), Future Trends in Satellite Navigation and 5G Integration, International Journal of Communication Systems, Bangalore, India.



Figure 1. Workflow of Multi-GNSS Positioning

The workflow of multi-GNSS positioning involves a systematic approach where satellite signals are captured, processed, and combined to determine an accurate location. By utilizing GPS, GLONASS, and Galileo, contemporary receivers can implement error correction methods like RTK (Real-Time Kinematic) and PPP (Precise Point Positioning) to improve accuracy and dependability in various settings.

Comparative Analysis of GPS, GLONASS, and Galileo Navigation Systems

Global Navigation Satellite Systems (GNSS) are crucial for positioning, navigation, and timing (PNT) applications across a range of industries, such as autonomous vehicles, aerospace, defence, geodesy, maritime navigation, and telecommunications. While there are several GNSS available worldwide, the three primary systems: GPS (USA), GLONASS (Russia), and Galileo (EU) vary in their architectures, signal structures, frequency allocations, accuracy, and applications²¹.

This section offers a detailed comparative analysis of GPS, GLONASS, and Galileo, assessing their performance, reliability, strengths, and weaknesses.

GPS functions with 31 active satellites positioned in Medium Earth Orbit (MEO) at an altitude of approximately 20,200 km. These satellites are distributed across six orbital planes, which guarantees uninterrupted global coverage. Each satellite broadcasts on three main frequency bands (L1, L2, L5), enabling dual-frequency positioning to enhance accuracy²².

GLONASS is made up of 24 operational satellites in medium Earth orbit (MEO) at an altitude of approximately 19,100 km. In contrast to GPS, GLONASS satellites are positioned in three distinct orbital planes, and each satellite operates on a unique frequency using a frequency division multiple access (FDMA) system. This configuration minimizes interference between satellites but also leads to frequency-dependent biases that need to be corrected for applications requiring high precision²³.

Galileo, the European Global Navigation Satellite System (GNSS), consists of 24 operational satellites along with 6 spares, all positioned in Medium Earth Orbit (MEO) at an altitude of approximately 23,222 kilometres. It features a three-plane

21 European Commission (2019), Galileo System Time (GST) and Synchronization with UTC, Brussels, Belgium.

22 NASA Jet Propulsion Laboratory (2023), GPS III and Future GNSS Innovations, Pasadena, USA.

23 Zhao, W., and Chen, J. (2020), Multi-GNSS Receivers: Performance, Challenges, and Future Directions, Chinese Academy of Sciences, Beijing, China.

orbital arrangement, akin to GPS, but utilizes a broader spectrum of frequencies (E1, E5, E6) and incorporates Binary Offset Carrier (BOC) modulation to improve accuracy and reduce susceptibility to multipath errors²⁴.

Table 4. Comparison of GNSS Constellation Designs [1], [2], [3]

Feature	GPS	GLONASS	Galileo
Number of Satellites	31	24	24 (+6 spares)
Orbital Altitude (km)	20,200	19,100	23,222
Orbital Planes	6	3	3
Satellite Lifespan	12-15 years	10-12 years	15+ years
Coverage	Global	Global	Global
Primary Modulation	CDMA	FDMA/CDMA	BOC, AltBOC

- GPS Signal Structure

Utilizes CDMA (Code Division Multiple Access), allowing all satellites to transmit on the same frequencies while using distinct PRN codes.

Supports three main frequency bands:

- L1 (1575.42 MHz) – Civilian and military use;
- L2 (1227.60 MHz) – Dual-frequency correction;
- L5 (1176.45 MHz) – Applications for safety-of-life²⁵.
- GLONASS Signal Structure

Employs FDMA (Frequency Division Multiple Access), allowing each satellite to transmit on a unique frequency within the same band.

Frequency Bands:

- L1 (1602 MHz) – For civilian applications;
- L2 (1246 MHz) – Used in military and precision applications;

²⁴ Tiberius, C. (2021), GNSS and the Role of AI in Enhancing Positioning Accuracy, Delft University of Technology, Delft, Netherlands.

²⁵ Indian Space Research Organization (ISRO) (2022), Multi-GNSS Integration with Indian Regional Navigation Satellite System (IRNSS), Bangalore, India.

- L3 (1201 MHz) – Features a CDMA-based modernized signal²⁶.
- Galileo Signal Structure

Utilizes BOC and AltBOC modulation techniques, enhancing resistance to multipath effects and improving accuracy.

Frequency Bands:

- E1 (1575.42 MHz) – Available for open service;
- E5 (1176.45 MHz, 1207.14 MHz) – Provides dual-frequency correction;
- E6 (1278.75 MHz) – Designed for commercial and encrypted applications²⁷.

Table 5. GNSS Frequency Bands and Modulation Techniques

Feature	GPS	GLONASS	Galileo
Modulation Type	CDMA	FDMA/CDMA	BOC, AltBOC
Number of Frequencies per Satellite	1 (L1/L2/L5)	1 per satellite in FDMA, 2+ in CDMA	3+ (E1, E5, E6)
Signal Bandwidth	2.046 MHz (L1)	9 MHz	20 MHz (AltBOC)
Anti-Jamming	Moderate	Moderate	High
Multipath Resistance	Moderate	Lower due to FDMA	High due to AltBOC
Ionospheric Correction	Dual frequency (L1/L5)	Dual frequency	Dual frequency

Accuracy Comparison:

- GPS Accuracy: 5-10 meters (civilian), sub-30 cm (military).
- GLONASS Accuracy: 5-7 meters (civilian), sub-meter (military).
- Galileo Accuracy: 1 meter (civilian), centimeter-level (High Accuracy Service - HAS)²⁸.

26 U.S. Air Force (2021), GPS Modernization: Enhancements in Military and Civilian Applications, Washington, D.C., USA.

27 Chaturvedi, R. (2022), GNSS in Remote Sensing: Applications in Disaster Management and Climate Monitoring, International Journal of Earth Sciences, New Delhi, India.

28 European GNSS Service Centre (2023), Galileo's Contribution to Global Navigation: Performance Analysis and Security Features, Madrid, Spain.

Table 6. Error Sources Comparison

Error Source	GPS	GLONASS	Galileo
Ionospheric Delays	Moderate	High	Low (Dual frequency)
Multipath Errors	Moderate	High	Low (BOC/AltBOC)
Orbital Errors	Low	Moderate	Very Low
Clock Drift	Low	High	Very Low

Resilience Against Jamming and Interference:

- GPS III satellites are equipped with sophisticated anti-jamming features.
- GLONASS signals experience greater frequency-dependent biases, which increases their vulnerability to interference.
- Galileo's BOC/AltBOC signals offer the best protection against interference and multipath errors²⁹.

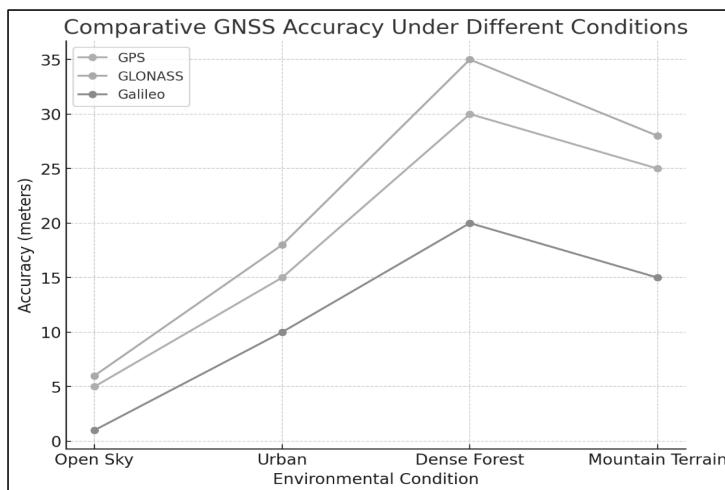


Figure 2. Comparative Accuracy of GPS, GLONASS, and Galileo Under Different Environmental Conditions

29 European GNSS Service Centre (2023), Galileo's Contribution to Global Navigation: Performance Analysis and Security Features, Madrid, Spain.

This figure presents a comparative accuracy assessment of the three main Global Navigation Satellite Systems (GPS, GLONASS, and Galileo) across four representative environmental conditions: open sky, urban areas, dense forest, and mountainous terrain. GPS demonstrates stable performance, but experiences higher degradation in obstructed environments. GLONASS shows similar behavior with slightly greater sensitivity to frequency-dependent biases. Galileo provides the highest accuracy across all scenarios due to its advanced signal structure (BOC/AltBOC) and dual-frequency capabilities, especially under challenging terrain conditions. The comparison visually reinforces the benefits of multi-GNSS integration for improving overall positioning reliability and precision.

Multi-GNSS Integration and Interoperability:

Today's multi-GNSS receivers combine signals from GPS, GLONASS, and Galileo, enhancing both positioning accuracy and reliability³⁰.

Table 7. Multi-GNSS Integration and Interoperability

Feature	GPS + GLONASS	GPS + Galileo	GPS + GLONASS + Galileo
Accuracy Improvement	Moderate	High	Very High
Availability	High	High	Highest
Urban Performance	Moderate	High	Very High

Conclusion

The comparative analysis of GPS, GLONASS and Galileo demonstrates the technological maturity, architectural distinctions and performance variations of these three global navigation satellite systems. These systems have become essential components of contemporary civilian and military capabilities, providing critical support for navigation, surveillance, communication and scientific research. Each system continues to evolve with modernization programmes that improve accuracy, strengthen signal integrity and increase resistance to interference. The findings presented in this study show the historical development, structural characteristics, sources of error and current trends that influence the efficiency and reliability of satellite positioning.

GPS remains the most widely utilized system due to its long operational history, global coverage and continuous upgrades through the GPS III programme. GLONASS

³⁰ Wang, T., and Li, Y. (2023), GNSS-Based Precision Agriculture: Benefits, Challenges, and Future Trends, Journal of Agricultural Engineering, Nanjing, China.

has undergone several phases of renewal which have improved interoperability and accuracy, although challenges related to clock stability and frequency-dependent behaviour remain. Galileo represents the most advanced civilian navigation system, offering high precision, strong resistance to multipath effects and secure regulated services for governmental users. Although it is still expanding, its technical design gives it considerable strategic relevance for European institutions.

Modern applications increasingly depend on multi-GNSS integration, which improves accuracy, resilience and system redundancy. Receivers that simultaneously process signals from GPS, GLONASS and Galileo achieve better performance in urban areas and complex terrain. This integrated approach also contributes to improved resistance against jamming and spoofing, which are growing concerns in an environment characterised by rapid advances in electronic warfare.

In the context of defense and security, the use of different GNSS constellations has clear geopolitical implications. States rely on these systems not only for operational effectiveness, but also for strategic autonomy. The dominance of GPS reflects United States leadership in global navigation, while GLONASS remains an important capability for the Russian Federation. Galileo strengthens the strategic independence of European partners by offering reliable and secure positioning services under civilian control. These factors influence military planning, interoperability within alliances and the resilience of critical infrastructure. Understanding the strengths and vulnerabilities of each constellation is therefore essential for defense institutions that must ensure continuity of navigation services during crises and hostile interference.

Future development is expected to focus on stronger signal protection, improved integration with communication technologies such as 5G and the involvement of low Earth orbit systems that can provide additional layers of accuracy and redundancy. Continued collaboration among global providers, research institutions and defense organizations will play a decisive role in enhancing the reliability and security of navigation systems that support a wide spectrum of modern operational and civilian activities.

REFERENCES:

Cai, C. and Gao, Y. (2013). GLONASS-Based Precise Point Positioning: Challenges and Opportunities. University of Calgary, Alberta, Canada.

Chaturvedi, R. (2022). GNSS in Remote Sensing: Applications in Disaster Management and Climate Monitoring. International Journal of Earth Sciences, New Delhi, India.

Eissfeller, B., Ameres, G., Kropp, V. and Sanroma, D. (2007). Performance of GPS, GLONASS, and Galileo. University of the Bundeswehr Munich, Germany.

European Commission. (2019). Galileo System Time (GST) and Synchronization with UTC. Brussels, Belgium.

European GNSS Agency. (2020). Galileo Open Service Performance Standards. Prague, Czech Republic.

European GNSS Service Centre. (2023). Galileo's Contribution to Global Navigation: Performance Analysis and Security Features. Madrid, Spain.

European Space Agency. (2024). Galileo HAS: High Accuracy Service for Civilian Applications. Paris, France.

Heng, L. (2021). GNSS for Autonomous Systems: Challenges and Technological Solutions. ETH Zurich, Switzerland.

Indian Space Research Organization (ISRO). (2022). Multi-GNSS Integration with Indian Regional Navigation Satellite System (IRNSS). Bangalore, India.

Ianc, A. and Tiberiu, C. (2022). Multi-GNSS Accuracy Assessment in Urban Environments. *Journal of Navigation and Geodesy*, Bucharest, Romania.

Kogure, S. and Furuno, K. (2018). The Impact of Multi-GNSS Integration on Positioning Accuracy. Tokyo Institute of Technology, Tokyo, Japan.

Kumar, V. and Rao, B. (2021). Future Trends in Satellite Navigation and 5G Integration. *International Journal of Communication Systems*, Bangalore, India.

Langley, R.B. (1999). The GPS Observables. *GPS Solutions*, Fredericton, Canada.

Medvedkov, Y. (2002). Certification of the Global Satellite Navigation System (GNSS). *International Institute of Air and Space Law*, The Hague, Netherlands.

NASA Jet Propulsion Laboratory. (2023). GPS III and Future GNSS Innovations. Pasadena, USA.

NovAtel Inc. (2007). GLONASS Overview. *GNSS Technology Review*, Calgary, Canada.

Roscosmos Research Institute. (2024). GNSS Signal Interference and Anti-Jamming Strategies for GLONASS. Moscow, Russia.

Russian Institute of Space Device Engineering. (2020). GLONASS-K and GLONASS-K2 Technical Review. Moscow, Russia.

Russian Space Agency. (1998). GLONASS Interface Control Document Version 4.0. Moscow, Russia.

Sarkar, S. and Bose, A. (2017). Comparative Analysis of GPS and GLONASS for Urban Navigation. *Journal of Geospatial Research*, Mumbai, India.

Sowinski, M. (2002). GLONASS Global Satellite System: Current Status and Development Plans. SGS Belgium, Brussels, Belgium.

SpaceX Starlink Research Team. (2024). Compatibility of Starlink with GNSS: Potential Interference and Solutions. Palo Alto, USA.

Stehos, J. and Karpov, M. (2020). GLONASS Open Service Performance Standards. Russian Space Corporation Roscosmos, Moscow, Russia.

Tiberius, C. (2021). GNSS and the Role of AI in Enhancing Positioning Accuracy. Delft University of Technology, Delft, Netherlands.

U.S. Air Force. (2021). GPS Modernization: Enhancements in Military and Civilian Applications. Washington, D.C., USA.

U.S. Department of Defense. (2020). GPS III: Modernization Efforts and Technical Specifications. Washington, D.C., USA.

U.S. Naval Observatory. (2019). GPS Time Synchronization and Atomic Clock Standards. Washington, D.C., USA.

Wang, T. and Li, Y. (2023). GNSS-Based Precision Agriculture: Benefits, Challenges, and Future Trends. *Journal of Agricultural Engineering*, Nanjing, China.

Yang, H. and Liu, P. (2023). GNSS-Based Positioning Solutions for Autonomous Vehicles. *IEEE Transactions on Intelligent Transportation Systems*, Beijing, China.

Zhao, W. and Chen, J. (2020). Multi-GNSS Receivers: Performance, Challenges, and Future Directions. Chinese Academy of Sciences, Beijing, China.

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Google (2019) Google terms of service. Available at: <https://policies.google.com/terms?hl=en-US> (Accessed: 29 April 2020).

Attachments

Attachments mean drawings, photographs, diagrams, tables, etc. the dimensions of which are of such a nature and format that they cannot be inserted into the text of the paper. The appendices are numbered starting from 1. For the style of the figures and tables, the same guidelines apply as in the text presented above.

Submission of papers

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