

# *Legal Approach To Implementing Security Measures For Combatting Threats To National Critical Infrastructures*

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**Abstract.** The quality of life and security of all citizens, including all EU citizens, is closely related to the provision of essential services through interaction of different critical infrastructures. Cross sectoral measures are required to be implemented in order to obtain high level of protection and optimal minimisation of potential risks for critical infrastructures, as various potential risks could also affect national security.

Taking into account the fact that the general framework on critical infrastructure sometimes could not sufficiently address all various challenges to critical infrastructures in each and every country, it is possible to consider complex legislative approach for implementation of security measures for combatting threats to national critical infrastructures.

The current articles outlines the specifics of implementing legal approach in reference to combatting threats to national critical infrastructures in line with the EU regulatory framework and focusing also to Bulgarian national legal sources and practical challenges.

**Keywords:** *complex measures, critical infrastructure, national security, legal framework.*

## I. INTRODUCTION

Examining the current developments and future challenges facing international, European and Bulgarian essential national infrastructures entails a comprehensive understanding of diverse issues, including cyber security risks, the impact of geopolitical dynamics, the effects of climate change, and financial stability, among other factors. Bulgaria, as a country situated at the crossroads of Europe and Asia, faces several unique challenges in protecting its critical infrastructure. Some of the primary elements forming key factors having the potential to affect critical infrastructures' stability include: cyber threats,

geopolitical factors, environmental factors and climate change, environmental degradation, factors causing economic instability, migration and corruption practices. [1, 2]

The theoretical basis for securing critical infrastructures against diverse threats starts with a deep understanding of the inherent vulnerabilities and risks these essential assets face. These infrastructures, which include utilities like electricity and water, as well as telecommunications systems, are crucial for national security and public welfare, necessitating their protection.

The core theoretical model integrates principles from risk management, which advocates for a methodical approach to identifying, evaluating, and mitigating risks. It also incorporates resilience theory, emphasizing the strengthening of these systems' capacity to endure and bounce back from disruptions. This comprehensive perspective ensures that strategies not only focus on preventing threats through stringent security measures but also on recovering swiftly from incidents.

The legal framework component relates to the application and effectiveness of laws and regulations that are designed to protect infrastructure. This involves a detailed approach to both national and international legal provisions facilitating understand enforcement mechanisms and ensure compliance across all parties involved.

Conducting a thorough examination to understand the specific aspects of safeguarding national critical infrastructure involves exploring the core principles behind its protection. This includes looking into the identification of security practices against potential threats, understanding the system's susceptibilities, evaluating risks, devising defence strategies, and recognizing the

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mutual dependencies within the infrastructure system, in addition to outlining the relevant policy frameworks and governance structures. Ensuring the safety of vital infrastructure and the strength of the entities that manage these systems is crucial for the functioning of society. Our daily lives depend heavily on uninterrupted access to essential services such as energy, clean water, healthcare, financial services, and reliable transportation systems.[3]

Consequently, the European Commission has been proactive in promoting the safeguarding of critical infrastructure and enhancing the durability of essential services against both natural disasters and human-induced threats.

## II. MATERIALS AND METHODS

The European Union has developed a comprehensive strategy for enhancing the security and resilience of vital infrastructures through the European Programme for Critical Infrastructure Protection (EPCIP), initiated in 2006 following the Commission's Communication on Critical Infrastructure Protection in the context of counter-terrorism efforts. This programme enables the Commission to:

- Encourage collaboration among European Union (EU) Member States and with international counterparts, including the United States, Canada, countries in the Western Balkans, and Eastern Europe.
- Assist Member States in strengthening the resilience of essential services and infrastructure.
- Allocate funding for research, studies, and projects related to critical infrastructure protection. Significant funding avenues include contributions to the security research programme under Horizon Europe and support for the European Reference Network for Critical Infrastructure Protection (ERNICIP).

In response to the necessity for enhanced measures for supporting and protect EU's vital infrastructure, in 2022 a Council Recommendation has been adopted, which sets forth a Union-wide collaborative effort to boost critical infrastructure resilience.[4] This recommendation delineates three core focus areas: enhancing preparedness, improving response mechanisms, and fortifying international collaboration. To improve preparedness, it suggests Member States refresh their risk evaluations to mirror current threats and undertake stress tests grounded on shared principles and collective scenarios at the EU level, initially focusing on the energy domain. Regarding response capabilities, it advocates for the creation of a Blueprint for a unified reaction to disruptions affecting critical infrastructures with notable cross-border impacts. The initiative follows the resilient infrastructure five-point strategy introduced, as it encourages EU Member States to increase their readiness and countermeasures against prevailing threats. This involves both preliminary actions aligned with the forthcoming Critical Entities Resilience Directive and the employment of supplementary tools in a synergized fashion.[5]

The practical implementation of security measures for critical infrastructure follows a systematic process, beginning with an in-depth risk assessment to pinpoint potential threats and their impacts. This assessment informs the development of customized security strategies that include physical and cyber defences tailored to the identified risks.[6]

The Commission has also put forward a proposal for a Council Recommendation on this Blueprint, which is currently under deliberation with Member States. Moreover, amplifying international cooperation, notably with NATO and principal ally nations, is envisaged to effectively tackle risks and incidents of significant cross-border concern. An EU-NATO Task Force dedicated to the resilience of critical infrastructure has been initiated, producing an evaluative report with pertinent recommendations in this domain. [7]

## III. RESULTS AND DISCUSSION

The entities involved in the provision of essential services are increasingly subject to diverging requirements imposed under national law. The fact that some Member States have less stringent security requirements on those entities not only leads to various levels of resilience, but also risks negatively impacting the maintenance of vital societal functions or economic activities across the Union and leads to obstacles to the proper functioning of the internal market.[8]

In that regard, from Legal and Regulatory Perspective, the European Commission introduced in 2020 a proposal for Directive on the resilience of critical entities. The Directive has been adopted since the end of 2022.

The Directive does not affect the competence of Member States and their authorities in terms of administrative autonomy or their responsibility for safeguarding national security and defence or their power to safeguard other essential State functions, in particular concerning public security, territorial integrity and the maintenance of law and order. [9]

The exclusion of public administration entities from the scope of this Directive should be applied to entities whose activities are predominantly carried out in the areas of national security, public security, defence or law enforcement, including the investigation, detection and prosecution of criminal offences. However, public administration entities whose activities are only marginally related to those areas should fall within the scope of this Directive.

With a view to ensuring a comprehensive approach to the resilience of critical entities, each Member State should have in place a strategy for enhancing the resilience of critical entities.

At an European Union level, there have been established process mechanisms for identifying and designation of European Critical Infrastructures. The legal framework also sets out an approach for improving the protection of critical infrastructures. To address these concerns, the European Commission put forward a Directive proposal in 2020 aimed at enhancing the resilience of critical entities, which has been in effect since late 2022. This Directive respects the sovereignty of

Member States regarding their administrative autonomy and their duties to protect national security, defence, and other critical state functions, particularly in areas related to public security, territorial integrity, and maintaining public order. It specifies that entities primarily engaged in national security, public security, defence, or law enforcement activities, including criminal investigations and proceedings, are exempt from its provisions. Nonetheless, entities with only minor connections to these sectors are included within its scope. [10]

To foster a holistic approach to bolstering the resilience of critical infrastructures, the Directive mandates that each Member State develops a strategic plan to strengthen such entities. Furthermore, at the EU level, processes and mechanisms have been put in place for identifying and designating European Critical Infrastructures, alongside establishing methodologies to improve the protection of these infrastructures.

#### IV. CONCLUSION

Identification and designation of European critical infrastructures required the EU countries Member States to go through a process of identifying potential critical infrastructures along with guidance and support provided by the European Commission. It is specifically important that identifying potential critical infrastructures, Member States should use cross-cutting criteria (such as possible casualties, economic effects and effect on the public), as well as sectoral criteria for identification, which criteria are specific according to the type of critical infrastructure being identified. In that regard, each and every European Union Member State has to go through a cooperative designation process for potential European Critical Infrastructure detection located on its territory.

In Europe, including Bulgaria, the safeguarding of national critical infrastructures is guided by a mix of overarching EU directives and specific national legislations that adhere to these European norms. The European Union has laid down a detailed legal structure to boost the resilience and safeguarding of crucial infrastructures throughout its member states. The concept of National critical infrastructure, encompasses the essential physical and cyber-based systems and assets whose failure or incapacitation could severely affect national security, economic well-being, public health, or safety. This broad category covers various sectors and components crucial for a nation's functioning and security.

Bulgaria, as a member of the EU, complies with these regulations, embedding them within its national framework for critical infrastructure protection. This involves transposing EU directives into national law and enacting specific protective measures to address the country's unique challenges and vulnerabilities within its critical infrastructure sectors. This cohesive approach between EU-wide directives and national legislation strives to establish a comprehensive and resilient framework for the protection of critical infrastructure across Europe, enabling coordinated responses to a wide range of threats.

Bulgaria's strategic emphasis on enhancing the resilience and security of its essential services and infrastructures is critical given its geographic significance and aspirations to integrate further into the European

Union's Schengen zone. This focus is particularly vital against the backdrop of global challenges and regional instabilities.

According to national regulations in Bulgaria the process of establishment of a potential European critical infrastructure at the territory of the Republic of Bulgaria, at an organizational level has to be carried out by a certain minister – member of the Council of Ministers. The exact procedures for the establishment and designation of European Critical Infrastructure on the territory of the Republic of Bulgaria, as well and the measures for their protection shall be determined by an ordinance of the Council of Ministers. [11]

As of 2013, Bulgaria has adopted an Ordinance on the procedure for the establishment and designation of European critical infrastructures in the Republic of Bulgaria and the measures of their protection. According to the legislative provisions and definitions set from regulatory aspect, the term Critical Infrastructure, according to the Ordinance includes an entire system or parts of it that are essential for maintaining vital social functions, health, safety, security, economic or social well-being of the population and whose violation or destruction would have significant negative consequences for the Republic of Bulgaria as a result of the inability to be retain these features.

#### V. FUTURE PERSPECTIVES

Addressing future challenges to national critical infrastructures requires a legal strategy that encompasses strong regulatory frameworks and comprehensive policy initiatives. Organizations responsible for delivering essential services across the EU are facing a patchwork of national regulations that often differ in stringency. This disparity in security standards among Member States not only creates levels of resilience but can also affect the continuous operation of crucial societal functions or economic activities throughout the Union.

Strategic guidelines and activities should support the development and implementation of laws and policies aimed at safeguarding the interconnected systems of security mechanisms, operational technologies and information technologies, recognizing the potential risks which could occur related to integration processes conduction. [12]

The legal framework needs to adapt to the changing landscape. Furthermore, enhancing the security and resilience of critical infrastructure requires legal support for efforts to collaborate with both public and private sectors. This includes intelligence sharing, vulnerability assessments, technological investments for protection, and other services aimed at strengthening the resilience of the nation's critical infrastructure against a spectrum of threats.

Tackling future threats to national critical infrastructures from a legal viewpoint involves reinforcing legal structures, enhancing international partnerships, and employing proactive security and policy measures.

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