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for the Doctoral (PhD) dissertation to

Lieutenant Colonel Levente TÁBI:

Development of the Hungarian Defense Forces capabilities in the subject of the Countering Improvised Explosive Devices

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INTRODUCTION

The usage of Improvised Explosive Device (IED) can be traced back several centuries. In the second half of the 20th century, regardless of political orientation, it was taught and used in various armies during military operations. In the Cold War era, those explosible improvised devices were referred to as a booby trap. During this period, conventional military forces and military personnel were primarily trained to use these explosive devices as an "offensive" weapon against opponents. These explosive devices were typically used in the operational area and were not considered as a threat targeting unsuspecting civilians.

For the general public, the IED as a weapon and real threat only emerged due to the events of the most recent armed conflicts of the 21st century. Based on statistical data, the number of losses caused by IED attacks has exponentially increased in conflict zones. Moreover, in recent times and in more and more cases, the civilian population is also exposed to serious danger due to such attacks. Furthermore, IED attacks are no longer only used in armed conflict zones, but it is increasingly likely that this type of threat will also appear in the territory considered safe for Western civilization.

With the increase in casualties of the ISAF mission, NATO established the Countering Improvised Explosive Devices (C-IED) task and system in the early 2000s to manage events related to various IED, reduce the impact of an IED attack, and ultimately eliminate the danger itself.

With the progress of the NATO mission in Iraq and later in Afghanistan, the occasion of the IED attacks increased exponentially. These attack methods posed a primary threat to NATO missions, so a significant portion of military operations' aim was to eliminate the danger posed by IED and mitigating the effects of it. In the operational preparation of the Hungarian Defence Forces, the training and education mechanisms, as well as the procurement of military equipment, devices, and combat vehicles, have also been moving in this direction based on the needs and requirements coming from the operational area.

After the closing these missions and the withdrawal of allied military forces from the operational area, un opinion has appeared in several NATO member countries, including the Hungarian Defense Forces, that in future military operations there will no longer be a significant need to consider the threat posed by IED. Additionally, since NATO has left the danger zone generated by IED, there will no longer be a need for various C-IED trainings. Along this line, the Hungarian Defense Forces has not considered the importance of the leadership's C-IED training.

It is true that almost every participating country withdrew its troops from the crisis zones mentioned above, however, unfortunately, the problem of IED threat has not disappeared. In fact, it has appeared here on our own continent, in Europe. The European events of recent years and months clearly show that the use of IED is now a concern not only in crisis zones, but also in European countries, thus disrupting the peace and security of more than half a century of European tranquility.

This has created a serious security challenge for Europe including Hungary, as well. Nevertheless, with the threat posed by IED appearing in our immediate environment, I believe the Hungarian Defense Forces also need to reassess their current situation, tasks, as well as their cooperation tasks with governmental, civil, and civilian security organizations.

The IED threat can only be effectively managed if it is processed in its content and depth. If we understand the nature and extent of the IED threat, we will be able to make the right decisions and thus reduce losses, mitigate or even eliminate the effects of this danger. This goal must be set in order for the Hungarian Defense Forces to be able to build, integrate, and maintain the C-IED task system to the necessary extent.

The military conflicts in Afghanistan and Iraq, then the security and military crisis in Syria and North Africa, as well as the entire Middle East, have left a mark on the calm and peaceful conditions and the daily life of Western civilization seeking social and economic development. Local and regional conflicts, ever-deepening crises and armed struggles have forced all warring parties to fight their battles exploiting and using the technology of the modern age.

The modern conventional Western military force was confronted by a young generation, infected with tribal culture, religious traditions and fanatical radicalism, who engaged in a battle similar to the "David and Goliath" struggle, each for his own truth and faith. The asymmetry is obvious and palpable. Yet the seemingly weaker side began to employ a fighting method against a modern and advanced military force that fundamentally disrupted the advanced order of operational planning and command. There has been a shift in emphasis, so to speak, a reassessment of the concepts of weak and strong, of the balance between advanced and more adaptable armed forces, and of the question of faith, hope and trust in security.

The new method of combat, brought to life by asymmetry in accordance with my understanding, the usage of the IED as a weapon. This threat, although it recreated in the 20th century, has a much longer history. In fact, we are not witnessing a renaissance in their use, but a completely new approach in this modern world. The recent use of IED first appeared

regionally, typically in armed conflict zones, but since the second half of the 2010s, in the post-modern era of terrorism, it can be said to have become a global threat.

Many developed countries and international organizations, such as the UN, NATO and the EU, have recognized the problem and its evolutionary trend and have taken institutionalized steps to cope with this global threat, reduce its effectiveness and impact, and minimize its effects. As Hungary is a member of these organizations and as our country has not been spared terrorist acts by bombings, we too must take up the need to take action against terrorism. This action must be treated as a national matter. However, terrorism is a complex problem, and therefore it must and can be combated within the nation in a united and cooperative manner. This is particularly true in relation to the operation of terrorist groups using IED and create extra threat.

Between 2015-2019, I was assigned to the NATO C-IED Centre of Excellence. Although I had already encountered the problem manifested by the IED and the initial NATO response, in these four years I have learned and deeply understood the root of the problem and its potential solutions, which are as complex as the IED itself. In order to counter it effectively, it is first necessary to understand not only the explosive device itself, but also the functioning, the purpose and the interrelationship of the system that uses it.

I think I had the opportunity to do this during those four years, because the NATO courses I taught gave me a deeper understanding of the NATO procedures and how they are translated into the tactical, operational and strategic levels. The course I led in Ukraine gave me a realistic picture of the technical aspects of the conflict there, and I also gained experience of the difficulties of building national capabilities by participating and directing a a NATO C-IED project in Jordan.

Learning about these processes encouraged me to explore and learn about the Hungarian national position and approach to the ever-changing threat landscape. In my view, the Hungarian armed forces must also be prepared to deal with this problem. I am convinced that in certain fields in the Hungarian officials and the Hungarian Defence Forces are on the right track, but I also see that there are room for improvement. My goal is to be part of developing solutions for my nation and specifically for the Hungarian Defence Forces.

1. Formulation of the scientific problem

With the increase in casualties in the different operational areas of the various NATO missions, the C-IED tasking system was developed in the NATO to deal with the various IED incidents,

to reduce the effects of IED and to eliminate the threat posed by the IED. As the IED attacks were becoming more frequent, and the number of casualties in theatre of operations increased exponentially, a significant part of the objectives of military operations was to eliminate or at least mitigate the IED threat.

Since the 2010s, the training system of the Hungarian Defence Forces has also included the training of tasks related to the threat posed by various IED and the introduction of C-IED rules at tactical level. In fact, the Hungarian Defence Forces has taken an active role in establishing, developing and maintaining a tactical-level C-IED training capability at an internationally recognized level.

According to my personal experience and perception, as a result of the troop withdrawals from the mission areas, like many other NATO member states, the opinions have been reinforced in the Hungarian Defence Forces that the various C-IED training, the development of capabilities and the increase of national C-IED capacities are no longer of high importance.

While NATO forces have essentially withdrawn from countries where IED attacks were a major threat, the problem of the IED, the threat posed by the IED, has unfortunately not gone away. Events in recent years and months have clearly shown that the use of IEDs is no longer a problem in crisis zones, but is now a reality in the peaceful, democratic countries. All in all, this poses a serious security challenge for Europe, including Hungary.

During the preparations for a mission, the Hungarian Defence Forces has taken the necessary steps and measures to ensure that the personnel deployed are prepared to arrive in theatre of operations where the possibility of IED use poses a threat. However, with the threat being in our immediate neighborhood, I believe that the Hungarian Defence Forces also needs to reassess their current situation, its mission and its cooperation with the Hungarian governmental and security agencies and other civilian organizations.

In the NATO approach, C-IED missions have been reassessed. According to the NATO C-IED doctrine (AJP-3.15 (C) – Allied Joint Doctrine for Countering Improvised Explosive Devices), these tasks can be grouped under three mutually supportive pillars: “Attack the Network”, „Defeat the Device” and ”Prepare the Force”. The basis for these three tasks is the continuous execution of the “Understanding and Intelligence” tasks, which is a prerequisite for the effective execution of the three tasks above. This is why NATO and some of its member states have changed their priorities and are now not only focusing on the IED as a device and its destruction but are also putting more emphasis on detecting the IED system, preventing the occurrence of acts that could stop the use of the IED and thus mitigating the threat.

In my judgement, based on my experience of the four years at the NATO C-IED COE, IEDs are no longer identified as a single weapon in the countries that play a dominant role in NATO, but as a fundamental factor influencing the operational environment. However, as the threat posed by IED and the IED system may become part of our everyday life in the near future, the threat posed by IEDs and the functioning of organizations seeking to use them must be addressed as a key challenge for future NATO operations.

As defined in AJP-3.15 (C), the purpose of C-IED tasks is nothing less than the totality of operations to destroy the IED-using group or organization itself, to limit its activities, to influence the conditions necessary for the systemic operation of them , with the objective of influencing the activities of the hostile, opposing group before the explosion occurs. It is also important to understand the content of this set of tasks, which go far beyond the normal tasks of conventional forces.

The events, necessary to use an IED, must occur somewhere, somehow, sometime. Even in the case of a ”lone-wolf“ type perpetrator. Based on the experience of the operations in Afghanistan and Iraq, I believe it is well proven that groups using IEDs operate in a structure. If these events, even in part, have taken place they can be possible to detect them and to map the linkage of events. If we declare that the events can be detected, we can also say that the means, the organization, and the methods are available to carry out these detection tasks. These events may no longer be visible to the tactical commander, and even the commander of the area of operations may not have a clear view and influence on everything, since some events may no longer take place in operations, but at distances and locations where the commander cannot influence them with his own military forces.

In a military operation, military resources are used, whereas in a stable, democratic nation at peace, it is not the military forces, the army, that will be responsible for detecting incidents, but the security and law enforcement agencies and services that are responsible for preserving national values and maintaining the security of citizens, every day of the year. This is why the international community involved in C-IED tasks places great emphasis on the fact that the key to counter IED-groups is cooperation, information sharing and the development of skills, competencies and capabilities to conduct synchronized operations between different organizations and services.

If the IED problem is placed in the context of today's military operations, including the hybrid warfare, we can see an even more complex situation. In a hybrid operational environment, everything is a little bit different from what we are used to have experienced in the conventional warfare. Today, even at the level of the NATO leadership, they can see a

complex problem, not only a military problem, but a multi-actor, multi-stage and complex mechanism. In this ”hybrid“ operational environment, using IED attacks make the understanding of the problem and the design of responses to it even more complex and intense. Thus, the exact mapping of the ”hybrid-IED-combo“ operational situation still needs to be clarified within NATO and there is a need for further studies on this topic .

On this basis, I believe that it is important to examine and analyze the role and the tasks of the Hungarian Defence Forces in the context of countering the IED activities. In my opinion, what needs to be researched now is not how the Hungarian Defence Forces can react on an IED as explosive devices, but what kind of cooperation mechanism is appropriate and necessary with the relevant partner services and organizations to ensure that the Hungarian Armed Forces can deal flexibly and effectively with any IED-related situation.

The mission statement of the Hungarian Defence Forces was formulated in the National Military Strategy issued in 2012. Based on these, the basic tasks of the Hungarian Defence Forces are to protect the sovereignty of Hungary, to cope with a regional conflict, to execute tasks in multinational environment based on international (NATO) requirements, and to cooperate and collaborate with the allied Forces. These are mainly military tasks, but the security challenges and their potential solutions go beyond the military role.

Countering an IED threat requires the involvement and cooperation of organizations other than the military, concerted action at government level and harmonization of the roles of all actors at the societal level to achieve the objectives.

Within NATO, a comprehensive and interagency approach is considered the most effective and efficient methodology for C-IED tasks. Many NATO countries already have national C-IED strategy that provide a good basis for defining the roles and responsibilities of the national bodies and organizations involved in the specialized tasks. National C-IED strategy can be also the basis for nations to build, maintain and develop their own national C-IED capabilities.

In recent years, the Hungarian Defence Forces has again initiated a new force development program, which is why I consider it is appropriate to examine the harmonization of national military C-IED capabilities with the overall national C-IED principles and expectations, and analyze how the modernization process fits in with allied C-IED concepts.

Recently, a growing number of publications and academic theses on C-IED have appeared in the field of domestic academic research. The majority of these have examined the C-IED problem from a low tactical perspective or with a specific focus on the explosive device.

In my research, I plan to extend this scope of investigation to the operational, strategic, and national level and focus on the C-IED mission system rather than the explosive device.

2. Research hypotheses.

In order to explore the central theme of my research by examining the questions posed as problems, I formulate the following hypotheses:

1. I assume that, internationally, the concept of IED and the activities of IED-groups are related, but this relationship is not reflected in Hungarian military terminology.
2. I understand that the threat posed by IEDs is present in a significant part of the world, but it is not really reflected in Hungarian national and military strategies and concepts.
3. In my perception, the comprehensive approach is a relatively new element of the C-IED tasks, even in the international approach, while on the national side this comprehensive approach is not perceived from the perspective of the Hungarian Defence Forces.
4. I assume that a national and a military strategy and concept is necessary in order to provide an appropriate framework for the approach and management of the national and the military C-IED.

3. Objectives of the research.

In my research, I sought to identify international and domestic principles, laws and concepts that provide a clear and unambiguous picture of the IED threat and the policies, measures and realistic capability development directions and opportunities that can be taken to counter it. My aim in this thesis is not only to list the definitions that have been invented and identified, but also to compare them by analyzing and evaluating them. At the end of the analytical and evaluative exercises, I will outline a version of the Hungarian potential C-IED principles, a conceptual approach to a national and/or a military C-IED concept.

By developing my dissertation, I intend to demonstrate that:

1. Beyond a conceptual understanding of the IED and the IED threat, a deeper understanding and analysis of their meaning and content is required.
2. There is a need for a comprehensive national C-IED strategy to be able to respond to specific IED situation, even in a preventive way, and to be able to

define roles and responsibilities among the actors involved in the protection, identifying all segments of the threat.

3. By developing a Hungarian national C-IED strategy, Hungary can contribute to maintaining both national and regional security and further strengthen its international commitment to counter the threat posed by IED.

In my opinion, by presenting the framework and the essential elements of the Hungarian national C-IED strategy, I can identify the important elements of connection for the Hungarian Defence Forces, which can be used to harmonize the internal regulations of the Hungarian armed forces with the governmental regulations, and also to determine the cooperation that the Hungarian Defence Forces should establish with the national and the international organizations, in order to effectively implement C-IED tasks.

By exploring the cause-and-effect relationships, my intent is to point out that:

- The national C-IED strategy is the driving force for capability building development for C-IED activities and can be used as a basis for the development and effective operation of a system of cooperation between different organizations.
- The harmonization of the Hungarian Defence Forces' regulations (even in an international context) is indispensable for the development of the Hungarian Defence Forces' interoperability in C-IED matters.

In terms of scientific results, I expect the following findings at the conclusion of my dissertation:

- By reviewing the relevant studies, I will prove that in the Hungarian military terminology the C-IED conceptualization is only sufficient for the tactical level, and I am going to prove that the interpretation of the C-IED concept requires the introduction of a definition that is appropriate for all levels of the military leadership.
- Using foreign experiences and taking into account the specificities of Hungary, I define the essential elements of the national C-IED strategy, the actors and their tasks and roles (in one version).
- Identify the specificities within the Hungarian Defence Forces that can be used to identify areas of capability to improve the interoperability of the Hungarian Defence Forces in the C-IED domain.
- I will be able to map the Hungarian Defence Forces' system of relationships that are essential for the national C-IED strategy and for the formal and substantive

development of cooperation with governmental organizations and other national bodies.

As a secondary outcome, my research will contribute into the MsC education regarding the development of the C-IED in Hungarian defense, law enforcement and security subjects.

I want to prove that the establishment of a comprehensive and complete national C-IED strategy is a medium- and long-term way to settle the tasks, responsibilities and can determine elements of cooperation between the different actors. In this way it will provide an up-to-date picture of the IED threat for the Hungarian Defence Forces.

4. Research methods and activities.

I consider the deductive research strategy to be the most appropriate for my topic, as I want to use the existing experience to determine the direction Hungary should take in order to best meet the challenges posed by the IEDs.

I classify my research activities as applied and action research. The applied research will be the dominant one, as I will conduct my research with the secondary objective of pointing out those elements in the Hungarian C-IED system that are in place in the international context and those that require further development or transformation.

In my research I plan to use several research methods. Of the exploratory methods, I naturally intend to use document analysis as the primary method. I plan to explore the harmonization of NATO and other documents from the international area and the current Hungarian regulations, thus proving the rules defined by the Hungarian, including the Hungarian Defence Forces, which I can use to draw my conclusions. With this processed information, I plan to come to further domestic-related results and conclusions that will help me to clarify the present and the future of the Hungarian Defence Forces' C-IED capability.

Since the international and the national C-IED terminology is constantly expanding and changing and shifts in emphasis within C-IED tasks can be observed from time to time, I have analyzed, interpreted and evaluated the individual fields and tasks objectively, without taking these points of emphasis into account.

5. The structure of the thesis and applied research methods

In order to confirm or reject the four hypotheses I set out to achieve my research objectives, I have divided my thesis into three main content chapters following the introduction. At the end of each chapter, I draw sub-conclusions and summarize them in a conclusion at the end of the

thesis. This is followed by a statement of the scientific results, indicating areas of potential application and suggesting topics for further research. The main body of the thesis is accompanied by five annexes, the first of which provides additional information with a brief description of C-IED courses. The fifth annex contains the abbreviations used throughout the thesis and their Hungarian equivalents. In this annex I have marked separately those Hungarian translations that are not yet included in the Hungarian Military Terminology Database.

In the first chapter, I interpreted the security context of the IED threat. In order to analyze the problem of the IED in its full depth, at first, through historical examples, I interpreted the impact of the IED problem on the society, on the target community. I have shown that IED as a concept that includes the terms improvisation, however, the reality is that there is almost no improvisation in the use of these IEDs. Indeed, I have pointed out that behind an IED attack there is a serious amount of planning activities, an organization for preparation, which integrated into a system, works as a well-orchestrated process. The aim of my analysis was to go beyond an asset-centric approach to the concept of an IED, to justify the existence and essence of the IED system and to illustrate the operational and strategic content of this system. In the final part of the chapter, I sought to answer the question of how the IED threat is perceived and interpreted by various international organizations and how Hungary went through in the recent events.

In the second chapter, I analyzed the responses to the IED threat at the operational level. By presenting C-IED concept of NATO, I have highlighted the decisive capabilities that are indispensable or at least have significant added value in the C-IED. One by one I have interpreted the mission statement of the main pillars of C-IED, and I have presented separately the foundation of the three pillars. At the end of each subsection, I formulated proposals to develop, improve and further enhance the C-IED capabilities of the Hungarian Defence Forces.

In the final chapter, I analyzed the Hungarian legal framework and sought to answer the question of how the national codes of practice frame and define the system of design and development of C-IED tasks. I also examined the position of the Hungarian Defence Forces in this national system and what C-IED tasks it has. I started with an analysis of Hungary's Constitution, after I briefed the Hungarian National Security Strategy and National Military Strategy. I concluded the presentation of the system of national legal regulations by interpreting the cardinal laws affecting the Hungarian Defense. In this part of my thesis, based on my assessment, it was confirmed that currently there is no unified Hungarian national C-IED strategy and concept. In the second half of the last chapter, I analyzed the internal regulations of the Hungarian Defence Forces and presented those Memorandum of Understanding or

Technical Arrangement that are relevant to the C-IED topic. In the concluding part of the chapter, I formulated suggestions and guidelines for the development of a national and a military C-IED strategy.

6. Overall conclusions

IED and the danger they pose have become one of the defining problems of the recent time. Unfortunately, it can be openly stated that now the IED threat is not only a security problem in crisis and war zones, but it is now appearing and taking its toll in the Western civilization and in the democratically functioning countries. Research on this topic is already extensive in the international environment, but the Hungarian scientific community has not yet processed many of the sub-areas.

Through my research activities, I have set the goal of going beyond the IED's tactical approach, exploring the factors, relationships, and the network that apply the IED system and its mechanism of operation, as well as the possible C-IED responses and reactions to the IED hazard. As a final goal, I set out that by examining the Hungarian legal system, I will be able to identify the key elements, which can be appropriate for establishing a national C-IED strategy, and on this basis the C-IED capacity of the Hungarian Armed Forces can be further shaped and at the end of the day the interoperability of the Hungarian force can be developed and strengthened.

With my analyzes of the first chapter, I proved that in the recent time, in the application of IEDs, the improvisation is no longer typical. Today, these explosive devices are produced specifically in crisis zones by series production using small-scale methods, but the descriptions required to make each explosive device can now be easily accessed by using digital device systems. Therefore, I concluded that behind the use of IEDs, a structured system, sometimes an organization can be identified. I interpreted and analyzed the elements of this system and their relationship in order to point out the mechanism and essential functions of the organization.

Considering that the IED system has not even been recognized as a concept in Hungary, I proposed the introduction of a new definition, which raises the issue of IED from the tactical level to the operational and strategic level.

In the final part of the chapter, I presented the significant IED events in the international space and in Hungary in the recent past. With this, I pointed out the fact that the IED problem is now being felt up close in Western society as well, so this security factor needs to be taken seriously. Analyzing this, I have revealed that leading and dominant international organizations

see the IED as a critical and serious problem for the future. Like international organizations, some nations see the IED problem as global. Although the number of cases committed with the IED in Hungary it is not a significant issue, the frequency of crimes is negligible, nevertheless in the Hungarian National Security Strategy the Hungarian government also perceives the IED threat worldwide.

In the second chapter, I examined the system of activities against the IED, within which the backbone of my analysis was the NATO C-IED system. Of course, I have also analyzed the C-IED approach of other international organizations and found out that in principle, these organizations see the possibility of tackling the IED problem in the same way, but there are philosophical differences in some parts, such as the UN. Nevertheless, the organizations and nations involved in the C-IED tasks see the essence of actions as feasible in cooperation, coordination, and information sharing.

Examining some nations, I have found that the type and nature of the IED threat to a given nation also significantly determines a country's reactions, capacity building, and skills for developing cooperation. In my analysis, however, I concluded that the development of a national C-IED strategy typically depends on the recognition of the global IED threat and not on the real threat to that country.

Through the analysis of the NATO C-IED doctrine, I demonstrated the essential interpretation of the C-IED tasks. My analysis confirmed that the problem posed by IED is not just a tactical situation, but a complex challenge at every driving level.

When analyzing the ”Defeat the Device” tasks, I concluded that in order to reduce the risk of IED, the tasks of destroying the explosive device must also be taken into account in a joint force approach. I also proved that the capabilities supporting this task system as a whole will not be able to reduce or eliminate the IED hazard but can make a significant contribution to the specified C-IED end state.

When analyzing the “Prepare the Force” tasks, I have proven that it is a multi-stage, complex system that appears at all levels of management. With this task it is possible to develop skills and develop existing skills in a way that builds on each other. The Lessons Learnt process is a very important element of the force preparation system in NATO. I have shown that the Lessons Learnt process contributes to the fight against the IED threat, and the gained experience has added value at both the tactical, operational and strategic levels.

The third key task package of the C-IED is the ”Attack the Network" task area. I found this to be the most complex and most proactive task system for C-IED. I have demonstrated that the identification of elements of systems, organizations and networks using the IED in the

field of the ”Attack the Network" is a key moment. This requires the cooperation of military, civilian and non-governmental organizations, the coordination of their activities and themost importantly, the coordinated implementation of organizational tasks. This also means that the current policy, the government sector and international cooperation have the greatest influence in the field of the ”Attack the Network" tasks. By analyzing this area, it has been able to demonstrate that without an appropriate national and international legal background, it is not possible to take effective action against the IED threat at regional, national or international level.

In the Hungarian scientific studies about the C-IED tasks so far, no one has ever analyzed the tasks supporting the three C-IED pillars. Yet this area plays a very important role in the effective implementation of the C-IED core tasks. The “Understanding and Intelligence” tasks focus on the IED system and the IED network and their modus operand. One of its most important tasks is information sharing, which is a key element in the success of C-IED tasks.

At the end of each subchapter, for each C-IED pillar, I made proposals to improve the C-IED capacity, efficiency, and interoperability of the Hungarian Defence Forces. I have also created a C-IED approach definition of the “Understanding and Intelligence” task system, the introduction of which is necessary to interpret this complex C-IED task at the operational management level of the Hungarian Defence Forces.

In the last chapter, I examined, presented, and evaluated the Hungarian legal system for C-IED tasks point of view. I have shown that the Constitution and its amendments do not contain wording referring to the IED threat but provide a sufficient framework for cardinal laws and other legal regulations to be issued on a professional basis.

Although the Hungarian National Security Strategy and the National Military Strategy are not part of the legislative hierarchy, they are key documents for interpreting pivotal laws and measures. During the analysis of the strategies, I was able to prove that there is currently no Hungarian national C-IED strategy, but they contain guidelines that can provide a sufficient framework for the development of a C-IED task system.

I have proved that defense is not the sole responsibility of the Ministry of Defense and the Hungarian Armed Forces, which also means that all relevant civil and non-governmental bodies and organizations must work together to solve the tasks related to national defense. This also means, on the other hand, that some C-IED capabilities must appear in the capability package of the Hungarian force, otherwise it will not be able to cooperate with other national C-IED capabilities and successfully play a role in the international environment. In doing so, I have also demonstrated that national C-IED capability and international engagement cannot be

chosen separately. At the end of the analysis of the strategies, I proved that the C-IED capacity of the Hungarian force and the system of cooperation must be built in peacetime, as this will achieve the comprehensive government approach most effectively and efficiently.

During the presentation of pivotal laws on national defense, I pointed out that the new Defense Act and the New Defense and Security Activities Coordination Act was published in 2021. These laws will put the Hungarian Armed Forces in a new position, which may also provide a greater opportunity for the integration of C-IED capabilities and tasks in the future. Existing cooperation agreements need to be revised due to new legislation, as they do not include the C-IED remit.

By analyzing the internal regulations of the Hungarian Armed Forces, I proved that the C-IED Working Group formed at the strategic level could only influence certain sub-tasks of the leadership in the development of the C-IED capability and had no effect on the further development of capabilities. When analyzing the Hungarian military C-IED Institutionalization Concept, I proved that this case only and specifically considers the capabilities of the Hungarian Armed Forces, completely excludes the civil and government sector and their capabilities from the concept. Thus, in my opinion, this document lost its function of being a strategic-level strategy of the Hungarian Armed Forces regarding the comprehensive C-IED approach.

Despite all this, I believe that the Hungarian Armed Forces should have a comprehensive C-IED strategy and concept, even representing national interests. Starting on the line of this principle, at the end of the chapter, I made proposals for the conceptual development of a national and military C-IED strategy.

7. New scientific findings

1. Based on the analyzes, I proved that the conceptual system of the IED is much more complex than it is stated in the Hungarian military terminology. Referring to this complexity, I proposed a new definition, including the IED system and this new definition can be applicable at the operational and strategic levels.

2. With my analyzes, I have proved that the IED threat is nowadays a worldwide problem, is perceived by countries and leading international organizations, but this danger is only indirectly considered by the Hungarian government. I further proved that while in many international communities the IED threat is usually require comprehensive government

approach, in Hungary there is no developed plan or concept for the strategic to cope with the overall IED threat.

3. I have demonstrated that the joint and coordinated application of capabilities developed for C-IED tasks allows for a comprehensive approach to IED threat and is able to ensure effective action against the IED system. With my analysis I proved that the lack of a comprehensive approach at the Hungarian Defence Forces does not currently allow to counter the IED threat in a complex way.

4. I proved that the development of the national C-IED strategy is necessary for the Hungarian Defence Forces to be able to offer and provide real national C-IED capabilities for its tasks and to be able to be performed in the international environment. I have demonstrated that the threat of IED can only be tackled comprehensively and effectively at national level through comprehensive government approach and action, with cooperation and cooperation.

8. Recommendations, areas for further research

1. With the introduction of the concept of the IED system/network, the responsibilities necessary for the planning and organization of the "Attack the Network" and their system of tasks can also be named on the Hungarian national defense system. By introducing these concepts and their content, it is expected to recognize the complexity of the problem and to develop and apply a comprehensive approach.

2. In Hungarian military terminology, by clarifying the concept system and interpretation of the content of the whole C-IED, a unified approach can be applied at all relevant management levels, as well as the planning, the organization and the leading the operations, even in an international environment.

3. At C-IED training events, not only the tactical and individual warriors' preparation will be recorded, but the practice of dealing with different IED situations will also be included in the system of preparation. By practicing the complex system C-IED tasks in the Command Post Exercises, the core elements created at the tactical, operational, and strategic levels will be able to effectively cope with the conditions caused by the IED threat in a coordinated and complementary manner.

4. Using the theoretical competencies outlined and the professional-based framework, the necessary conditions for the development of a national and a military C-IED strategy are available. Based on a concept based on national interests, by coordinating them, national cooperation can be established, and a comprehensive approach can be achieved at national level.

5. By reviewing the C-IED internal regulations of the Hungarian Defence Forces, and by developing the C-IED capability package of the national force, a transparent and workable system can be established. With this, the Hungarian Defence Forces will be able to show the interoperable and efficient set of capabilities along national interests in the fight against the IED system.

9. Practical applicability of research and scientific results

Due to the complexity of the research topic, my dissertation did not cover many areas and topics that can be processed with further independent research. In order to find, analyze and get to know the details of the different sub-areas, I suggest research on the following topics and areas:

1. What training mechanism is required for the different levels to develop the C-IED capabilities of the Hungarian Defence Forces. How can the Hungarian C-IED training system be even more in line with NATO C-IED requirements. What methods and tools can be used to introduce the complex system of tasks of the C-IED into Command Post Exercises.

2. The C-IED comprehensive approach involves the civil sector. How to establish cooperation in the field of C-IED between the various organizations, agencies, bodies and the non-governmental organizations involved in its defense, in a state of peace and in special legal situations.

3. The effects of national strategies, new cardinal laws concerning national defense and ministerial measures on the development and maintenance of Hungarian C-EID capabilities.

4. The Military Search and Route Clearance in the Hungarian Armed Forces system.

5. What a Hungarian C-IED capabilities can support and contribute to the success of NATO's multinational operations. What C-IED capability should be developed and operated in an expeditionary force or for an operation under NATO Article 5.

AUTHOR'S PUBLICATIONS ON THE SUBJECT

Single writings:

1. TÁBI Levente: *Distributing Learning in the C-IED Discipline*; Hadtudományi Szemle, 11. grade, Ludovika University of Public Service, Budapest, 2018. 2. Edition, 347-363. page, ISSN 2060-0437.
2. TÁBI Levente: *Attack with IED from the air*, Honvédségi Szemle, 147. grade, Zrínyi Kiadó, Budapest, 2019/A. 1. Edition, 46-53. page, ISSN 2060-1506.
3. TÁBI Levente: *The development of the hollow charge and their application during the IED attacks in the XXI. Century, Part I*; Haditechnika, 53. grade Hungarian Armed Forces, Budapest, 2019. 4. Edition, 23-26. page, ISSN 0230-6891.
4. TÁBI Levente: *Relationship between the Hungarian Armed Forces and the NATO C-IED COE*; Honvédségi Szemle, 147. grade, Zrínyi Kiadó, Budapest, 2019/B. 5. Edition, 88-101. page, ISSN 2060-1506.
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10. TÁBI Levente: *The Establishment of the HQ MND-C and the Related Military Engineering Issues*; Hadtudomány, 32. grade, Hungarian Association of Military Science, Budapest, 2022. 3 Edition, 110-127. page, ISSN 1588-0605.

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2. HORVÁTH Tibor– TÁBI Levente: *Support capabilities to supplement C-IED mission. PART 1*; REVISTA Academiei Forţelor Terestre, Vol. 27. Nr. 2 (106), Sibiu, 2022; 154-161. page, ISSN 2247-840X.
3. HORVÁTH Tibor Col – TÁBI Levente LtCol: *Complementarity and support capabilities for C-IED*; Honvédségi Szemle, 150. grade, Zrínyi Kiadó, Budapest, 2022. 3. Edition, 58-73. page, ISSN 2060-1506.
4. HORVÁTH Tibor – TÁBI Levente: *Counter-IED (C-IED) mission support capabilities*; Hadtudomány, 33. grade, Hungarian Association of Military Science, Budapest, 2023. 3. Edition, 15-31. page, ISSN 1588-0605.

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1. SÜTŐ Ákos: *Common features of policing and national defense when introducing a special legal order*; Military Science and the 21 century, conference, opponency, Ludovika University of Public Service, Budapest, 2018.02.21-22.
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3. SZATAI Zsolt József: *Possibilities of detecting IED*; Military Science and the 21 century, conference, opponency, Ludovika University of Public Service, Budapest, 2019.02.27-28.
4. TÁBI Levente: *The Establishment of the HQ MND-C and the Related Military Engineering Issues*; NATO 2030, Hungarian Association of Military Science conference, Ludovika University of Public Service, Budapest, 2021.10.27.
5. Levente TÁBI (Hungary): *Comprehensive approach in the C-IED from the Armed Forces' point of view*; Faculty of Military Leadership University of Defence in Brno, 15th Annual Doctoral Conference; New Approaches to State Security Assurance, online conference, 2021.12.11.

Application Q4 category journal announcement:

1. TÁBI Levente: *Comprehensive Package for Strengthening Jordanian C-IED Defence Capabilities*; NATO SPS Series – B: Physics and Biophysics: „*Explosives Detection*", SPRINGER published in Cooperation with NATO ESCD, 2019; 198-207. page, ISSN 1874-6500.

AUTOBIOGRAPHY

Lieutenant Colonel Levente Tábi was born in October 1970. After graduating from high school, he began his military studies in 1989 at the Kossuth Lajos Military College in Szentendre, on Military Engineering Faculty.

In 1992 he was commissioned to a 2nd lieutenant and began his career as an officer in Hódmezővásárhely the HDF 62nd Miklós Bercsényi Mechanized Infantry Brigade, . He was appointed Commander of the Military Engineer Company in 1993 and he was the commander of this subunit for another four years. During this time, he completed a 12-month intensive English language course in 1996-97, as well as 1995-98 he obtained his second degree in Civil Engineering and Teaching at the Faculty of Military Sciences of the Miklós Zrínyi National Defense University, on the campus of Szentendre.

In 1997, he was transferred to the infantry battalion staff to be the Military Engineer Staff Officer. As a result of a successful application, he attended a 9-week English preparatory course in the United States, San Antonio, Texas, and then successfully completed an 18-week the US “Captain Carrier Course” at American MANSCEN base in Fort Leonard Wood, Missouri.

Coming home from his American studies, he received a new assignment in the brigade staff. In 2003 he started his studies at the Miklós Zrínyi National Defense

In 2006, he successfully completed his university studies and obtained his military leadership MsC degree. In 2007, his first mission abroad was conducted to Afghanistan, . After more than 7 months in the operation, he moved to Székesfehérvár, and to be senior officer in the Military Engineer Technician department at the National Joint Command. Later he became the chief of the Military Engineer Technician in 2012 he moved to the Operation Department of the National Joint Command and became senior Military Engineer Staff Officer, the primary advisor of the commander.

Between 2015-2019 his assignment was the Military Engineer Staff Officer, at the C-IED COE, Spain. During this period in NATO, he successfully completed the postgraduate training of St. Gregory People's College, and in 2017 he also started his PhD training at the National University of Public Administration, Doctoral School of Military Sciences.

In 2019, he was a senior staff officer Training division, where he will be responsible for coordinating the mission preparation of the Hungarian troops and coordinating the preparations for the Hungarian C-IED.

In November 2020, he was assigned to the ACOS GENG of the NATO HQ MND-C.

He received „Disaster Response Service Sign” recognition twice for Flood Protection and once for his Red Mud Disaster Response. The owner of „Peacekeeping and Permanent Non-Armed External Service Sign” received grades „Officer Service Sign I-II and III.” and earned the “Bronze Grade Service Medal of Merit”.

There is currently a language exam of STANAG 6001 – 3.3.3.3 in English and a language exam of the advanced complex level with military expertise, as well as a basic language exam in Russian and Spanish.

Married, happy father of three young adults!