

THE POSSIBILITY OF USING THE FIELD ARTILLERY OF THE HUNGARIAN ARMY IN PEACE SUPPORT OPERATIONS

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Exposition of the author

Introduction

“It’s not always possible to mend something with few changes but it’s sometimes necessary to destroy the old and start something completely new”.

Quotation by Istvan Szechenyi
 (“the greatest Hungarian”)

Upon becoming part of NATO Hungary volunteered to carry out missions working together with other countries within the frames of the alliance. Considering our federal obligations these missions are not only political obligations but also mean active participation in war operations.

One of the messages of the Prague Summit in 2002 is that the European member states must enter into bigger engagements in keeping the common defense system alive as well as finding solutions to assymetric challenges. Our country has engaged in fully carrying out these missions and has decided to support the allies’ missions in the future, and participating in them according to its capacity. These alignments weren’t contradicted after the Prague NATO Summits.

The Hungarian Army has an artillery arm and hopefully will not give it up in the future as it has always been its most effective maneuver force. Restructuring the national armies to be able to fight modern wars as well as managing crisis is today’s obvious and irreversible tendency. Hungary’s leadership is about to do the same when reforming the forces. To bring a decision whether to maintain, develop or terminate branches and special troops during force reconstruction is currently a big dilemma. One cannot forget that while liquidation can be done quickly, building capabilities anew may take decades.

This is demonstrated by the time frame -2007-2018-¹ which it takes for the US to organize the change of an existing maneuver force at brigade level, this not even being a new capability . Considering the economical, coordination and human resource possibilities in expanding capabilities of the US and Hungary and the fact, that we are talking about the transformation of an existing capability and the creation of a new one saying that it takes a decade doesn't seem to be an exaggeration.

Considering the following factors:

- Hungary 's federal undertakings
 - the basic characteristic of the force that is able to react to new challenges
 - characteristics of present operations and their effects on the missions
 - the reserves consisting of the capabilities gained through the technical results of warfare
 - presently available resources
- we have to ask the question whether there is a place for the artillery arm in the present and future of the Hungarian Army's peace support operations.

This is the matter I was analyzing in my study considering the possibilities of using the Hungarian Army which I examined on the base of the last defensive inspection's results and of the prospect of taking part in some of the peace support operations. I am sure that the artillery experts are capable of securing effective fire support for the formations and maneuver forces led by them in wars, peace support operations as well as in times of crisis. The presence of this branch belongs to the expected and wanted category throughout the peace support operations from the operational commander's point of view. Its presence is justified by the technical content of those national documents that determine the execution of the federal mission. At the same time they are able to effectively fulfill the basic missions, take part in solving the existing situation as well as carry out other military missions in addition to the basic purpose.

The purpose of making the study

Summarizing and analyzing the features and characteristics of international military operations' artillery fire support through theoretical thesis of NATO doctrines and missions where NATO forces are present focusing on carrying out of artillery fire support for peace support operations.

Analyzing and evaluating the present possibilities of the Hungarian Army's land forces at the field of artillery fire support considering the available technical and human conditions as well as the mission and requirement system originating in our international obligations and determined by international standards.

Testifying as a function of these that the improvement of the Hungarian Army's artillery fire support system, the change of the organization , the restitution of certain elements of expert lead levels, the identification and modification of the training direction would all increase significantly the effectiveness of fire support both at the national and international level and would help to carry out the Hungarian Army's national and international obligations.

Research Motivation

Possible changes in the security environments and their effects on NATO and the member states have been examined lately at many international as well as national forums. None has given real answers to the challenges though. Specialists have mostly made predictions referring to the complexity of the problem. Globalization and its consequences are the main determinations of the zone of safety according to these.

It may be worthwhile to study the thoughts on the application of the military forces. We can often read about the army of the future, that the size of the permanent workforce should be smaller but better equipped and be able to defend the country working on “the whole spectrum of operations.”²

As described by Peter Siklosi at the scientific conference of the Hungarian Associates of Higher Military Sciences: “As widely accepted in NATO there is less and less possibility for an operation by the 5th Article. This however cannot mean that the Alliance is not prepared to fight such an operation if the situation comes up. The military force must be able and prepared to work in the full range of operations starting with high intensity operations through conflict management as well as mopping up the aftermath of disasters.”³

Based on the above the armed forces of the Euro-Atlantic area must continuously update their assignment system. The reason is that though capable armed forces have been and are available, priorities need short time changes. Since there is no exact enemy image any more, the “standard” adverse party’s strength, composition, doctrine and principle of deployment is not known. Therefore, a flexible armed force is necessary to be maintained in readiness. A homogenous, acceptable concept hasn’t been determined in the last two decades.

The basic concept is not simple. Specialists and command staffs’ jobs became very complex when working on the task system and the trainee aims that need to be met for the war support and war support supply branches, and special groups and units. The fact that effective experiences can only be extracted from application results of the participating forces in the two Iraq wars and the crisis in Afghanistan and Yugoslavia makes this work even more difficult.

When analyzing experiments of the artillery units of the Alliance and the Euro-Atlantic Region, we can only get valuable results from the same place. Making the process even more difficult is that these forces are currently being used at the said places so a big part of their experiences are not and cannot be public because of Operational Security – OPSEC. It is true for Hungary and other small countries at an increased degree that they can only get access to secondary sources. Only the experiences of the US are openly available. I mainly acquire the small nations’ experiences at professional consultations. This fact doesn’t interfere in the peace support operations of the recent past when carrying out professional principals in real life but parts of these can of course be impediments to available possibilities. The published summaries doubtlessly show the widening of the operational tasks. Therefore if we want to be prepared for the possible

operations of the future, training aims must be determined by the altered task system and preparation for fulfilling expected missions.

When talking about carrying out the assignment system of the artillery a false stereotype is widely accepted in Hungary according to which they only take part in destruction or war operations by the 5th Article. A large portion of combined arms specialists do not consider artillery divisions or brigades capable of effective participation in peacekeeping operations. Others have the same view, thinking that the artillery is nothing but the use of guns and munitions to overrun and destroy the enemy. These however are false and harmful interpretations of the artillery's function. There is naturally a positive change in the frequency of other opinions expressed as colleagues who have gained experience had and have seen the advantages of the artillery's presence in everyday circumstances where the security of various missions wasn't 100%.

The participating forces in these operations always solved tactical or operational missions or defined the aim of their missions as fulfilling tactical and operational tasks.

The artillery's basic task is the missions' artillery support which is done by carrying out standard artillery tactical exercises throughout war operations. (These standard artillery tactical exercises are the following:

- general support
- fortifying general support
- reinforcement
- direct support) 4

The fire support of the maneuver forces is done by the coordinated work of the artillery subsystems while carrying out standard tactical exercises which doesn't mean purely destruction based on any method.

(There are 5 subsystems within the system of field artillery according to NATO field artillery doctrine:

- subsystem of reconnaissance means things such as the reconnaissance system, observer system, identification friend or foe (IFF) system and reconnaissance, surveillance and target acquisition RSTA
- commander officer's communications and information subsystem
- subsystem of fire weapons (cannons, mortars, launching platforms)
- subsystem of munitions
- subsystem of logistics.) 5

The subsystems alone are able to take part in carrying out partial tasks of support but their work together doesn't always mean intense destruction.

The task system of the artillery formations taking part in the last big intense operations –OIF- disprove the negative effects of stereotypes mentioned above as after finishing the war operations the artillery took part in carrying out of the Stability and Support Operations - SASO. During this they had to carry out tactical tasks in addition to their basic tasks.

In conclusion based on the above, I find it important to let my research results be used by organizations that are in charge of preparations and making decisions as well as professionals and commanders to help their effectiveness in carrying out tasks.

Methodological questions of the research

I had to use the methods analysis, synthesis, induction and deduction from the general search methods and historical comparison system as part of the special methods of military science justified by the subject and the necessity of force maintenance and development.

I had to analyze both the national and international special technical literature to achieve the research aims and provide a precise result. I had to do so with the substance of knowledge of joint subject matters, too. I collected data of the smallest parts of the researched project after which I worked them out in details, analyzed and synthesized them.

I kept track of the changes in the organizational system of the Hungarian Army especially concerning the composition and time of readiness of the available forces.

I completed the theoretical research methods with practical experiences coming from my summaries of home and international practices so far executed. To these practical experiences I added my personal experiences coming from the active participation in exercises both in Hungary and abroad as well as being a commander in a territory of warfare. I used the outcome for my research results integrating induction and deduction.

I have continuously consulted artillerists – the best opportunities given by the artillery division of the MHTT (Hungarian Army) - as well as all arms and fire support branch and special branch experts. Series of consultations with experts helped me in conducting comparative analysis of up-to-date knowledge, information and theories.

I expounded my views and my partial results through publications and studies and at scientific- professional conferences in front of wide professional circles – both Hungarian and international.

Considering the volume of the doctoral thesis I would not analyze the standard combat missions in peace support operations neither conventional artillery missions in war. I would only refer to them as processed results.

I concluded the basic research of my thesis in Jan.2009. and the complimentary researches in May.

1. ENVIROMENT FOR THE IMPLEMENTATION OF THE HUNGARIAN ARMY IN PEACE SUPPORT MISSION

I have concluded that the country and its high level military leadership took notice of the requirements made by the alliance and the security policy situation for Hungary to participate in securing the North-Atlantic territory even beyond its boundaries. They not only took notice but prepared the documents based on which it is part of the military leadership's duty to ensure the conditions to fulfill our international obligations. There is appropriate time considering the country's load-bearing capacity. The elaboration of the details has begun, all that is left is to make them precise and start the real work.

Analyzing the basic documents I concluded and came to the conclusion without doubt that the artillery as a system and its abilities are highly needed in the Hungarian Army to reach its goals. Artillery and fire support are capabilities that connect directly to our fulfilling national and international obligations. Based on my research, the fact that the name of a capability is not in the documents in written form, doesn't mean that it is not an integral part of the organisation's ability to achieve the designated goal. At the same time we get the following guidelines from the National Military Strategy: "It is an essential condition for the effective work of the Hungarian Army to have a stabile, but flexible, organization, suitable branch proportions, operational leadership, ability of units and subunits to function independently, and the ability to integrate organizational elements. "6 The suitable branch proportions and the ability of units to function independently are equally important for the artillery's tasks in the Hungarian Forces at present as well as in the future. There is even more direct language concerning the developments in the Strategy:

"The most important tasks for improving the armaments are:

increasing the capabilities, security and fire power of the land forces:

...

systematizing the technical reconnaissance equipment". 7

The definition of scope has been given, now the work must get started. The presence of the artillery is not a question any more , we only have to find the answer to the question of how. The answer has to be found in the build up of the forces, the type and quantity of authorized technical equipment and the aim of the trainings in dialectical balance with time, need of resources and ability. I am going to give an alternative option for these issues.

I have come to the conclusion that the artillery cannot cease to exist, cannot belong to the category of unrecommended capabilities as the units' knowledge and abilities - which they acquired through trainings- are needed as well as the basic ability to cooperate with each other and to integrate combined-arms, joint approach, and effect based operations of the present.

After analyzing the applicable conditions I came to the conclusion that the preparations for application of the mortar and anti-tank corps must stay under the control of artillery as this guarantees the most effective use of tools and this capability is most easily inserted into the artillery and fire support system.

After analyzing and synthesizing using induction and deduction I have come to the conclusion that there is only a minimal need for artillery fire support tools and staff at battalion and brigade level.

I have concluded from the nature of proposals and ambition levels that the units` capability for carrying out combat and non-warrior tasks is a must. Considering the number and makeup of our maneuver battalions and cadre brigades, the expectable mission operations, our obligations coming from bilateral agreements and the force and tool needs of the country`s defense tasks we must be content with the units abilities to fulfill both task systems. This way the training, the technical developments and the structure of the artillery units , battalions and brigades must be arranged in a way that they are able to carry out both combat and non-warrior tasks.

It is clear that all this cannot be done without appropriate leadership.

Being a very complex mission we definitely have to use the experience and conclusions of military higher education (ZMNE) and the professional cooperation of schools where career and contracted staff is trained. The task of the middle and higher command levels beside achieving the capabilities is to be able to insert the fire support mission system into the mission of the system at a given level. The operational experience must be processed and after being synthesized it must be inserted into the preparation and training system of the force in collaboration with the educational system. The user needs must be drafted in order to modernize the system with basic training, retraining and further trainings and at the same time the planning of the professional progression of artillery and fire support staff must be kept in mind partly to use the hr effectively, and partly to ensure that deployable staff is continuously available throughout the time the capabilities are achieved as well as thereafter.

2.Characteristics of the application of field artillery in peace support operations

The basic principals in regulations and practical experience don`t contradict but fortify each other. This means that essential changes are not necessary in the principle and process system determined in regulating documents. Only small changes are needed or the principles from basic documents, regulations, doctrines, books must be applied in inventive ways at the theater of operations.

According to my conclusions – considering the realistic and available economical limitations for the Hungarian Army- the primary mission in the changing the Hungarian Army must be to maintain existing capabilities and availabilities and establish our possibilities of improvement securing the missions originating in the constitution and the federal covenant. It`s expedient to use the multifunctionality of branch and war support teams based on the conclusions of present warfare and to build on existing capabilities when working on middle- and long-term-plans. The training and preparation requirements and the realization and professional confirmation of the phrase “the Hungarian Army being a professional force” should be based on all of these.

When looking towards the future it is very important to use practical experience as well as the whole spectrum of activities framed in theoretical knowledge and rules as this way we can start the building from almost the beginning within the Hungarian Army . The analysis of practical experience is of essence to this, which I am going to address in the next chapter.

3. INTERNATIONAL FIRE SUPPORT EXPERIENCE

Based on experience and accepted principal systems I have come to the conclusion that fully operationally capable artillery units were indeed able to react flexibly to these quickly changing tactical situations must be able to change quickly between combat and non combat operations. They were able not only to adjust fire support tasks to altered operation environment but also to carry out combat forms that don't belong to the basic task. They could do so using their personnel – command, staff and processing units – as well as the possibilities given by the technical data of standard supplies. These all mean that the CO of the forces especially at battalion and brigade level will not give up but claim the presence of his artillery as he can use his multifunctionality without giving up the basic security requirements. They provide fire support and at the same time are flexible reserve forces when infantry capabilities are required.

The biggest need of artillery units' system-characteristics in any kind of operation environment is the usage of technical intelligence units and equipment, but its importance is growing in peace support and stability operations as well as in the later cases supporting their own as well as friendly troops. This means that discrimination radars based on the analysis of a ballistic curve are very much needed at brigade level as well as single camps which can also hardly be defended without them. These are only available of course, if the equipment is working within a system and the systems are operated by headquarters and staffs as part of the basic functions. These devices are in the hands of the artillery unit commander, the same person who is the fire coordinator of the maneuver force.

Because of these reasons the artillery unit commanders and his staff had to retrain themselves to be able to carry out secondary missions as well as their basic missions at the highest level. The mission system of the staffs and the training of the junior staff should be oriented this way and their structure should be formed in a way that they are able to do this kind of job.

After analyzing the peace support operations I pointed out the fact that the gun being the most characteristic instrument of the artillery must be present at the operational fields. The ready pairs, contingency sections, batteries - the arrangement depending on the danger and the operational environment - comprised the deterrent capability in the past, the show of and sometimes the reaction force which secured the continuous and on-time fire support of the maneuver forces and on the other hand kept the other party from careless actions. Considering the protection of the forces, the flexibility and the changing of the systems due to continuous bearing forces as well as the danger level of the operational circumstances, the level of fire command very often dropped from battery level to fire section. This was a good solution in many cases because during this time the platoon and lower levels supported the complementary - rifle- missions better and the order of command didn't need to be changed from time to time, thus the chain of command stayed transparent and obvious.

The most conspicuous experience -which doesn't contradict the principles laid down in regulations-, is the artillery units being commissioned to do infantry missions. There are not only one or two cases but considering the publications and the OPSEC regulations it has become a general procedure in the last 5 years to give multifunctional projects to the artillery. This can of course only be done with well prepared and trained staff which knows the available technical equipment and is effectively able to fulfill all of the following missions such as patrolling, monitoring, scout and securing of routes and areas with or without cars and basic attack and defense missions as well as effectively reacting to unexpected actions. All this is true for basically non-battle forces so soldiers at logistics and (staff) support units must be prepared for complementary - rifle- missions in addition to their basic missions. At the same time the range of the basic missions has expanded too as support must be given in addition to their own unit to own and friendly forces at the field of responsibility as well as to the civilian population. This means the base of HR being a separate category must be handled separately depending on the expectable mission with separate preparation and training especially in the Hungarian Army which is so small in number.

It cannot be a requirement to shift the preparation of the artillery forces completely to infantry training. It is quite evident that an artillery unit must be ready to fulfill basic artillery missions above all. This is the capability expected by the maneuver commander. This mission system is the first it has to fulfill precisely and effectively and this is the one which predestinates the units and their staff to carry out the other missions the same way at the same level. The artillery units at the operation field must be ready to carry out the fire support by all means but when the intensity of the operations decreases they are able to fulfill other facts of the missions at the operation field .

4. THE HUNGARIAN ARTILLERY'S FUTURE MISSIONS AND CAPABILITIES IN PEACE SUPPORT OPERATIONS

I have analyzed the available forces and equipments of the field and anti-tank artillery of the Hungarian Army and have concluded that there are not enough technical and human resources. Nor is the present structure able to secure the appropriate fire support. This means that suitable organizational frames must be formed and filled with staff and high level, updated technical equipment.

I have offered my suggestion in order to start the essential work of analyzing and summarizing the mission system, the surrounding of the expectable application as well as the abilities of achieving the determined aims so that decision makers can come to a decision within a specific time.

After surveying the conditions of preserving and delivering practical experiences I have concluded that they can be done at battery level but at any higher level the associated education system seems to have the danger of widening the generation gap. If the necessary staff will not be chosen and trained - and at the same time motivated- there won't be a range of staff with practical experience which is prepared to carry out their missions before performing their assignment. This means that there must be a plan to

train the inexperienced assigned staff during their assignment which will further increase the time to reach full operational capability.

I have analyzed the options of keeping and acquiring the theoretical knowledge and have enhanced the facts coming from studying practical experiences with directives securing the keeping and acquiring of applicable knowledge. The knowledge which is necessary for carrying out a mission precisely and professionally is expedient to obtain before being appointed for an assignment. It's possible to connect the procedure with the education and examination system which is the operational condition of the system of promotion. I have concluded that the active operations of the present require the obtaining of newer knowledge as well which needs to be integrated into the organized education system mentioned above. In order to obtain this knowledge we have to use the possibilities given by the international education centers with the priority of the options of national training. This pool of knowledge must be tested honed at exercises at home and abroad and during missions where the experiences must be processed immediately.

In summation, I have concluded that when forming a Hungarian Army which is accomplished both in national and federal standards the artillery must be the basic element of fire support. The artillery system must be of a high standard equipped with updated equipment and be an integrated part of the automated leadership system of the units originating from its systematical abilities. This artillery system with the recommended technical equipment will be suitable to allow the Hungarian Army to make a serious pledge in carrying out federal missions. The subsystems of the artillery system in blocks with little manpower, meaning a lot of force are applicable in international missions.

In parallel I find it necessary that the HA at HM HVK level have one or two such chiefs of artillery who are responsible for the fire support and at joint level, supported by the law, alone responsible for the planning, organizing, coordinating and controlling of the mission connected to fire support as a basic mission. The effective performance of missions that meet national and federal expectations would be secured through this person.

I have analyzed the operational experiences of the recent past and the ones that are currently being carried out and concluded that just as in country defenses, big territories must be kept under control with few forces in peace support operations, too. Modern artillery with its abilities provides the quickest and most effective reaction force in the hands of the commanders. This means that further decreasing the artillery without quality compensation makes the national maneuver forces powerless and defenseless.

Considering the load-bearing capacity of the country it must have been a very difficult decision to squeeze the operational conditions of the combat support units into tight frames but the possibility of the profession surviving still exists as well as the prospect of creating a modern unit and mission system after a middle-range preparation and acquiring financial support.

Pondering the present security environment, our expectable missions as well as our judgment in international military diplomacy, I have come to the conclusion that our strict obligation is to meet NATO requirements but at the same time we cannot miss the historical chance that a large part of the complement still knows the different tactical procedures, techniques and methods of different martial cultures. Undoubtedly, the basic principles must be the ones from NATO doctrines, but the experiences which don't contradict these principles can be of use and forgetting or marginalizing them would only have a negative effect on us. It can be especially true for the application and combat service of the artillery arm and especially until our technical equipment is made under this principle system. We have proved through international exercises that when competing with other allied artillery units it's only our technical equipment that limited us but because we were precise and quick we gave an exemplary performance thanks to our preparation. Our acquired practical experiences must be kept even if the XXI century is full of IT and when GPS is used every day and ridiculously we have PUO-9Y target rid or gyrocompass METEO 11 or 1G17. These are abilities – and all the others that are not ridiculous- worth keeping and knowing the principles can give us self assurance and the ability to adopt any other method.

Valuating the present situation I have concluded that training and preparation at the middle range must be planned in a way that encompasses the survival of the profession, the maintenance of existing abilities and at the same time gives opportunity to exercise new abilities using the freshest international experiences and requirements. The arm must be present at most possible exercises, mission and target preparations and at the performance of the missions, too because this is the way we can reach both aims as the experiences and the responsibility for professionally performing fire support would be achieved and commanders at every level would feel the effectiveness and importance of the profession.

In my opinion if we don't have realistic aims that must be reached and we don't know and don't agree on the way of how they should be performed and finally if not every artillerist is working on the project then we won't be able to persuade the military and political higher command of the reason for our existence. The most effective way of persuading superiors is results and making plans that are not far from reality and can be realistically performed.

Summarized conclusions

Peace support operations are operations which are carried out in multinational environment which is different from the usual armed conflict, based on ENSZ or EBESZ directions with humanitarian and diplomatic TOOLS as well as with the use of military forces to reach a longer term political solution or a stable, secure stage within the present circumstances or to relieve the trials of conflicts. Military forces may be used through peace support operations but without the wide range military operations used in wars the characteristics of which I have already discussed in chapter 2.

Field artillery takes an effective part in peace support operations, its abilities significantly contributing to the success of the mission. It has the appropriate command structure fortified with its reliable communications abilities. It plays a significant role in the operation of the integrated intelligence system with its optical and technical reconnaissance abilities. It is able to secure effective fire support and time-on-target fire 24 hours a day and in the full width and depth of the operation field and is further fortified with the possibility of using precision-guided munitions which secure the realization of proportional, necessary and sufficient reactions.

In my thesis I have studied the application of the artillery in a system, the possibility and necessity of its application in peace operations and the possible directions of improvements, as well as the reserves in the possibility of multipurpose applications and the possible and reachable improvement possibilities of the subsystems in connection with the necessary change of structure.

I have come to the conclusion that field artillery itself is a real deterrent and with indirect fire the commitment of deployment forces as well as unpredictable loss as part of close combat can be prevented which is even more effective at protecting the field of force. Based on my research the application of field artillery in peace support operations is not a question but justified – keeping in mind the present situation – and at the same time one cannot forget that beyond the professional abilities it is the field artillery units, their staff and the widely interpreted fighting equipment that have the abilities to carry out the general peace support missions.

Summary of the search results

The Prague Summit made it clear that the capacity of carrying out military missions outside the alliance's territory is a necessity as well as the preventive protection of security interests far from the borders. It emphasized the priority of quality requirements over numerous but limited capacity defense structures.

Artillery which was identified by guns and munitions up to a few years ago became an integrated system of materials, weapons and combat procedures. Skeptics can still not imagine its deployment in peace support operations as they stereotyped it with uncontrolled and excessive destruction and demolition. The operational experiences of the recent past have proved this thesis to be wrong and proved the arm's multiple application capacity. The artillery is going to have to increase its intervention performance and effectiveness with the continuous improvement of combat -technical procedures.

They are going to use the results of the changes in technical improvements and doctrinal developments which were realized by the artillery system. This is going to have impact at a wide range including lead, control, target intelligence, weapon systems, automated fire control, logistical support and utilization of personal abilities. The effective application of the artillery means the balanced improvement and systematizing of all the artillery system's elements as insufficiency at any segment irreparably damages the work of the whole system.

New scientific results

1. I have verified the justification of the artillery units and the professional need of the field artillery in national defense as well as in carrying out missions originating from international obligations.
2. I have categorized the expectable missions of field artillery and its units in non-combat military operations.
3. I have verified that when improving the artillery arm and considering the principles of the contemplation of the system the most important part is the modernization of the intelligence subsystem.
4. I have verified that to perform the examined ambition levels the Hungarian Army does not possess the required human and technical resources concerning the field artillery.

Recommendations

The material of the dissertation can be used in thematical programs of military colleges in the theoretical foundations of the subjects of fire and peace support operations.

Based on the dissertation a research-improvement group would be justified for the future at ZMNE working on theoretical complimentary research. I advise the introduction of the drafts of my dissertation at scientific conferences and within the frame of further training of commanders.

The introduction of modern fire support and artillery support mission systems and structures applied in NATO can help develop fire support ability and a system of joint thinking.

Practical use of the search results

The search results can contribute -as an alternative- to the shaping of the Hungarian fire- and artillery support system until 2020 where the main aim is the successful attainment of the ambition level.

It can be a base when elaborating the syllabus of preparing artillery units for not specifically professional missions.

Scientists and practical experts engaged in the XXI century artillery arm must think together about the execution of the artillery's application in a system creating what can be the basic capability of the collective professional future in regular and peace support operations.

Finally I would like to thank my consultant, colleagues, and experts in the subject and friends for their help and contributions in preparing my doctoral thesis.

¹ Nathan Hodge (JDW Staff Reporter) – US Army explores options for improved howitzer – Janes's Defense Weekly – 2007/19 –page 10.

2 András Havril Colonel-General – The renewing military leadership – Honvédségi szemle – 2006/10. – pages 3-10.

3 Told at the professional scientific conference 'Expectable changes within NATO mission system in the next 10 years' organized by the Hungarian Associates of Higher Military Sciences and ZMNE

4 A Arty P-5 (STANAG 2484) NATO Field Artillery Tactical Doctrine – NATO Standardization Agency – 2001 – 0210.

5 A Arty P-5 (STANAG 2484) NATO Field Artillery Tactical Doctrine – NATO Standardization Agency – 2001 – 0204.

6 ^{1009/2009. (I. 30.)} Government decision on the National Military Strategy of the Hungarian Republic^{IV}. fejezet, 25. pont – http://www.hm.gov.hu/miniszterium/nemzeti_katonai_strategia_-_kormanyhatarozat - 2009. 02. 10.

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