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**POSSIBILITIES TO CREATE A NETWORK BASED,
ADVANCED INDIVIDUAL EQUIPMENT
FOR SOLDIERS IN THE HUNGARIAN ARMY
IN ORDER TO ENLARGE THEIR COMBAT EFFECTIVENESS**

The author's review
of the PhD dissertation entitled

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Description of the academic problem

Over the years in history the combat clothing and the individual equipment of soldiers was developed according to the actual warfare principles and experiences. The out-of-date, un-appropriate or poor individual equipment of the soldiers can often be blamed for losing a battle. The traditional individual equipment, combat clothing is not appropriate for the challenges of the 21st century, therefore a reasonable development is needed.

A soldier can live up to the new different military expectations only if he is equipped with the electronic inventions of the information age, (such as the portable miniature computer, infra camera, Unmanned Aerial Vehicle, etc.) together with the integrated system that enables the soldier to take part in Network Centric Warfare. Modern developed armies accepted this and equipped more and more soldiers and small units with up-to-date integrated systems thus greatly enlarging the soldiers' reconnaissance capability, survivability and another combat capabilities.

Having joined NATO, the Hungarian Army's Special Forces need to be able to work in Network Centric Warfare. Hungarian soldiers can undertake these tasks only in case they are equipped with up-to-date, high-tech network-integrated advanced individual equipment systems that are compatible with the other NATO countries' systems.

I strongly believe that creating the modern equipment for Hungarian soldiers is to be done by Hungarian academic studies. Therefore, as my topic, I have chosen to study and find out new ways to enlarge the combat effectiveness of Hungarian soldiers, so that the chances of survival can be enlarged during military operation or on the field.

Aims of my study

1. I wish to study and assess the impact of the military challenges of the 21st century and the information revolution on military operation itself. Next, to prove that the Hungarian Army must be capable of operating in Network Centric Warfare together with other NATO countries' soldiers. Also, I wish to outline the advanced individual equipment system for Hungarian soldiers that will enable them to operate in Network Centric Warfare.
2. To create a requirement standard for the individual equipment of Hungarian soldiers, based on the results of the individual equipment modernization project of 3 NATO armies, taking into consideration the new military challenges and the up-to-date operation experiences.
3. To make a research and assessment of the Hungarian soldiers' present individual equipment, and make suggestions on adding new appliances to the individual equipment system.

My research methods

During my study I used the following research methods:

1. After studying the international and the Hungarian bibliography written on the topic, I collected and systematized the necessary information. I studied the correlations present in the writings listed in the bibliography with the method of analysis and synthesis, as well as induction and deduction.
2. I have attended many international conferences, symposiums, consultations, field exercises and technical demonstrations on the topic, both in Hungary and abroad. Apart from all these I have had the chance to show my research and my results in English and in Hungarian as well.

Inspections

In order to reach the goals that I have set, the inspections I have made are described in the following chapters:

Chapter 1.:

I analysed and assessed the risks in security policies and the military challenges of our time. Keeping in mind the new challenges, I examined the tasks of soldiers, and the effect of the information age on military action and on the soldiers' equipment.

Chapter 2.:

I analysed the contextual connections between the 'digital soldier', the 'net soldier' and the 'future soldier'. I analysed and assessed the results of the individual equipment modernization project of 3 NATO armies. I also described the Hungarian participation in the activity of a NATO group, dealing with such issues, the LCG1-Dismounted Soldier System Group.

Chapter 3.:

I determined an up-to-date, high-tech network-integrated advanced individual equipment system for Hungarian soldiers. I described the characteristics of the items of this equipment system, and I determined the requirements for them. Next, I analysed the benefits of the system.

Chapter 4.:

I analysed and assessed the present equipment system of Hungarian soldiers, taking into consideration the requirement system described in the previous chapter. I made recommendations on how to integrate the different items into the suggested equipment system.

At the end of each chapter I made **conclusions** of the chapter's context. I made a **summary** of these conclusions at the end of my essay, and I regard these statements as the **basis of my new contribution to academic knowledge**.

Summary of conclusions

1. Based on the analysis and assessment of the risks in security policies and the military challenges of the 21st century I have reached the conclusion that **the role of soldiers and the requirements have changed**. The traditional equipment, which is **not a network-based advanced individual equipment system**, is **no longer ensuring** the combat effectiveness for a successful operation.
2. The information revolution has effected the individual equipment of soldiers, and **integrating the up-to-date items of equipment has revolutionised** it. This way it became possible that **the soldier can be a part of the information system of Network Centric Warfare**, thus being able to **obtain the combat effectiveness** needed for completing a task.
3. By analysing the programs Land Warrior, IdZ and FELIN I have found that the main goal of all 3 programs is to enlarge the combat effectiveness of soldiers, and to connect them into tactical internet network. As a result, the soldiers will be able to face the military challenges of today and the near future.
4. Based on the results of my analyses, I have reached the conclusion that the Hungarian Army must create a modern network based advanced individual equipment for Hungarian soldiers, that can be used in Network Centric Warfare.
5. Taking into consideration the new military challenges I examined, the effects of the information revolution on military activity and on the soldiers' equipments system, plus using the experiences of the examined programs, **I have determined the items of the soldier's individual equipment**.
6. After describing the items of the individual equipment, using the experiences and results of my surveys, **I determined the requirements concerning the items of the soldiers' individual equipment**.
7. After describing the benefits of soldiers' individual equipment, I concluded that the suggested individual equipment **can enable the soldiers to participate successfully in Network Centric Warfare together with other NATO countries' soldiers**.

8. Based on my research I concluded that the Hungarian soldiers' present individual equipment **does not enable the soldiers to participate successfully in Network Centric Warfare.**
9. On the basis of my research completed so far, I concluded that in order to create the soldiers' individual equipment **it would be worth while to form a unified Hungarian national programme that could co-ordinate the development in the long run.**
10. Finally I made a suggestion on creating the individual equipment I have determined.

New academic results

1. By analysing the effects of the military challenges of the 21st century, and the effects of the information revolution on warfare and the soldiers' equipment, **I have proved that the Hungarian Army must be capable of operating in Network Centric Warfare together with other NATO countries' soldiers.**
2. **I have determined the necessary items of the soldiers' individual equipment,** which enhance the soldiers' combat effectiveness and survival opportunities, as well as enabling them to operate in Network Centric Warfare.
3. Analysing the operation experiences and the modern, network-based individual equipment used by other countries, **I have determined the requirements concerning the soldiers' individual equipment,** that match the Hungarian Army's present and future tasks.
4. Based on the analysis and assessment of the Hungarian soldiers' present individual equipment, **I made a suggestion on creating a network based, advanced individual equipment for the soldiers of the Hungarian Army.**

Proposals on the use of this dissertation

1. My research results contribute to the transformation of soldiers' individual equipment in the Hungarian Army, with a network based attitude.
2. My dissertation can be used as a starting point in the creation of network based, advanced individual equipment of Hungarian soldiers.
3. I suggest using my dissertation or parts of it in military education.