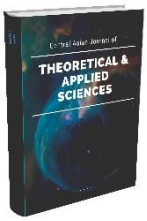

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Information Technologies in Military Security Support of the State

Djuraev Ruslan Zakirovich
Head of department information technologies of the Higher Military Aviation School of the Republic of Uzbekistan
ddrusa80@gmail.com

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Abstract: *The purpose of the article is to form using features of the information technologies in spheres of management, material and technical support in combat operations by Armed Forces and in peace time – for ensuring military and national security. As taking into account of the development at the present stage of military data the informations on future and continuing armed conflicts carry out the integrating role. The article focuses on a perspective of creation and increase in efficiency of developments in the field of information technologies, for the purpose of their application in the military sphere.*

Keywords: *information, technology, security, military, science, war.*

Introduction

The international community needs today not only stability, order, consensus, but also an initiative, creative, independent person with information and political and managerial skills. It is on such personalities (both leaders and performers) that the formation, reproduction and transformation of international relations, international and national security [7]. The concept of network-centric warfare developed in the USA in the 90s of the XX century set a new vector for the development of military science and military technologies. New forms and methods of conducting military confrontation and armed conflict have created the need to create mechanisms and tools capable of ensuring information superiority over the enemy. Therefore, the creation of a high-speed information and telecommunications infrastructure is seen as a promising element of the control system of the Armed Forces of the Republic of Uzbekistan at the current stage [1].

Modern military operations are the integration of many parallel processes (surveillance, reconnaissance, targeting, navigation, etc.) in time and space. At the same time, combat operations are carried out at a super-fast pace with the use of complex and high-precision weapons. Thus, combining physical, cognitive and managerial functions, information technologies have embraced all elements of military affairs (human resources, technologies, material objects), becoming the basic element of modern military strategy and tactics. Information technologies have become a key link in integrated combat control systems in the formation of networks for the transmission of digital, audio and visual data, as well as for the organization of systematic control over logistics.

Main part

Today, in place of classical military concepts such as defense, maneuver, strike and logistics, the updated functionality of the armed forces is coming through the introduction of mechanisms and technologies of highly coordinated maneuver, high-precision weapons, multidimensional defense and targeted coordinated logistics [11].

However, we should not forget that the effectiveness of the mechanism for ensuring the military security of the state is not only the resource and technical support of modern armed forces, but also a combination of power, management and coordination activities aimed at preventing and eliminating external and internal military dangers and threats, identifying (studying), forecasting, prevention, neutralization, and in extreme cases, and the suppression, reflection, elimination of military dangers and threats [8].

As for information technologies directly, the main factors of the dominant role of information and communication (computer) technologies (ICT) in modern military science is the need to optimize and promptly implement any action performed both during a direct armed conflict and in the logistical, managerial and information support of the armed forces in peacetime.

Modern information technologies make it possible to form control and management systems in conditions of dynamic growth of mobility, uncertainty and the need to synchronize the processes of command and interaction of all combat elements and participants in a military clash or confrontation in the areas of analytics, control and communications, thereby increasing the level of automation of decision-making. And, as you know, the time factor is key today for the formation of victory in any form of confrontation, given the transience of the processes of modern military clashes.

An important component of the functioning of modern armed forces is the introduction and development of digital information processing tools about the terrain, the enemy and their own troops. In modern military clashes, the role of ICT has changed from auxiliary to fundamental, which is caused by the dynamics of the evolution of weapons and control systems. For example, information technologies are beginning to occupy a key place in the development of the military-industrial complex in such areas as additive technologies, robotics, unmanned aircraft, “technical vision” systems, etc.

As for the information support of the modern armed forces, I would like to touch upon the scientific and practical prospects for the development of such an important sphere for the security of the state as topographic and navigation support. Despite the fact that today classical topographic maps are used for strategic, operational and tactical management of troops, after the dynamic growth of the scale and transience of modern military operations and the cardinal renewal of varieties of types and means of weapons, the nomenclature of topo geodetic information carriers has expanded accordingly. The main task of these carriers is to provide objective operational information. This is done by generating and filtering large volumes of heterogeneous data, by using different areas of technological progress: systems for recognizing photo and video images or speech, neural and semantic networks and using the capabilities of “artificial intelligence”.

Aspects of the accuracy and efficiency of obtaining information and geodata about the territories located in the combat zone or controlled and adjacent territories, with dynamic command of troops, become a key link for decision-making and control by the command of the armed forces. The transience of modern armed clashes requires the development and introduction into military science of an increasing number of mechanisms and tools to optimize the deployment of military units and flexible management response with timely correction of information about enemy actions. Therefore, the task of forming an integral information and communication space with the help of information technology is the basis for a positive result in a collision or confrontation, by providing a timely and objective picture of the combat situation

and the dynamics of its changes. This ensures that the opposing side is ahead of the curve in collecting and analyzing information, making strategic and tactical command decisions and promptly bringing them to the military units involved in the conflict [6].

Thanks to the emergence of more advanced carriers of digital, audio and video communications, topo geodetic support of the Armed Forces in the XXI century, including aerospace, optoelectronic intelligence with the use of digital computer processing, has become the basis for the transmission of information in modern law enforcement agencies. The basis of geo information support is the use of channels associated with databases of geographical information systems for the purpose of systematic circulation of operational data for the transmission of geographical or topographic information in digital form. Thus, information databases and digital maps of the area are formed in order to comprehensively reflect information for electronic visualization and the possibility of interactive user work [1].

At the same time, modern technologies make it possible to create and maintain digital models of the operational situation for each specific task, taking into account the specifics of a particular military structure. For example, the tools of electronic (digital) reflection of the battlefield are widely used – a fairly high-quality and innovative introduction in the application of ICT in the field of modern operations. The main functional task of the military map is to display the situation in time and space as quickly and accurately as possible.

And these properties are sufficiently possessed by modern information computer applications that help to quickly and closely reflect all the nuances of issues that arise when placing personnel of military units, equipment and support services or material objects in a specific location in the appropriate deployment at the right time.

Due to this, there is high-quality monitoring and effective planning and management of the movements of human and technical resources, taking into account the dynamics and changes in the combat situation, taking into account external factors (terrain, time and weather aspects, the level of secrecy, quantitative and qualitative characteristics of human resources and equipment). It becomes possible to more objectively plan and optimize the schedule and routes of movement of aviation forces for spot strikes, conducting reconnaissance activities, determining projected routes of movement and locations of the enemy, in order to develop strategic and tactical plans for the deployment of the necessary forces and means.

A separate issue in the military sphere is the use of a digital form for creating three-dimensional terrain models in order to use these capabilities on specialized training military-applied simulators (for example, for acquiring and additional development of flight and other types of equipment management skills and, in general, for developing the necessary qualification skills). Also, these capabilities are used in navigation and dispatching support of mobile human and technical objects, creation and support of databases of navigation and operational-tactical situation, forecasting the possibility and results of the use of weapons of mass destruction and the consequences of emergencies of a natural and man-made nature, in order to determine the level of danger of the situation and planning measures for protection, evacuation or the restoration of territories that have been subjected to destructive effects.

Thus, for a high-quality and effective strategic, tactical and operational supply of information to the country's leadership, the command of the armed forces and units of law enforcement agencies, it is necessary to focus efforts in the medium term on:

- implementation of theoretical developments of geodetic and navigation support and their practical implementation in the form of a unified information support system for military management at

various levels of both the Armed Forces of the Republic of Uzbekistan and in state structures responsible for the military and national security of the country;

- development of high-tech navigation and geodetic systems and defense equipment;
- planned work on the program of creation and systematic updating of electronic information bases both concerning the territory of the Republic of Uzbekistan and border territories (territories of the CIS countries) and territories of other countries where there is a possibility of military or armed conflicts;
- research and use of experience in the creation and operation of foreign military-technical systems of reconnaissance, observation and navigation support of the Armed Forces of the Republic of Uzbekistan both for functional activities during military clashes and for monitoring threats in peacetime;
- development and implementation of more advanced technologies in the field of fixation and processing of images obtained using satellite and other forms of tracking, or when using unmanned aerial vehicles [1].

Separately, I would like to say about the interaction of ICT and different forms of military management on the example of such a form of military control, planning and influence as reflexive management. Reflexive management is the influence on subjects in order to persuade them to make a decision prepared in advance by the managing party. The creator of this concept, V. A. Lefevre, has given such a designation – it is "a process in which one of the opponents transfers the grounds for decision-making to another." He also formulated four basic types of reflexive control [5]: direct influence through manipulation through influence; by manipulating changes in the relationships between individuals in a group; by manipulating changes in the relationships between individuals in a group; as a means of manipulating the order of significance; through influencing the unconscious sphere of subjects. This concept was developed by such researchers as S. Leonenko, M. Ionov [2] and S. Komov [3].

So, S. Leonenko believes [4] that the process of reflexive management begins with the transfer of motivation and grounds from the management body to the controlled system, in order to introduce a reason to achieve the desired solution. The meaning of the idea of reflection is to encourage certain processes to simulate the reasoning or possible behavior of the enemy, forcing him to make a decision unfavorable to himself, since it is based only on his idea of the situation that has formed. With the positive conduct of an operation for reflexive control of the enemy, there is a possibility of indirect (and sometimes direct) influence on the military plans and actions of the opposing side, by distorting or forming a false idea of the situation.

Effective tools of reflexive management include: disinformation, "camouflage" of information and means of its detection and presentation, provocations and other means of informational and psychological influence on the enemy [10].

Reflexive management methods can also be used to disorganize decision-making processes at the state level through the manipulation of information or the formation of systematic comprehensive disinformation, in order to defeat special information resources, including such spheres and areas as information and information storage and transmitters, information technologies for receiving, collecting and processing information; infrastructure of information centers and automation, switching, communication, programming tools and data transmission; managing, scientific and service personnel of administrative and organizational bodies managing information processes [9].

During a conflict, according to the theory of reflexive management, the warring parties conduct a strategic, tactical and operational analysis of both their own ideas and the ideas of the enemy, with the aim of further manipulative influence on the opponent through the tools of reflexive management. The main

task in this case is to search for the so-called "weak filter", the functional essence of which is to filter out information, intelligence and other data and factors in order to form ideas necessary for choice and decision-making, i.e. all data about the outside world passes through it, and it itself is a set of military technologies and methods conducting combat operations preferred by the enemy [4]. When determining this filter, it is necessary to take actions to form a weak functionality of the filter or to disrupt its internal structural connections in every possible way. This takes into account the fact that the opposing side also has its own model of the situation, and it is assumed that it also undertakes or will attempt to counter influence the side imposing an alien control system on it.

S. Leonenko, while developing thoughts on the practical application of the bundle of reflexive management and ICT, notes that information and computer resources can become an obstacle to the effective use of reflexive management, since these technologies allow for rapid deep calculation and recounting of any actions, and therefore there is a threat of high-speed and accurate "calculation" of measures and directions of action of reflexive management. Nevertheless, the same factor can also be effectively used in inaction or counteraction, given the aspect that information and computer technologies lack an intuitive form of human reasoning.

We also agree with his statement that in modern conditions of complete technization and automation of managerial and military-technical actions, there is a need to take actions not only against human resources, but also directly against technical means of information and intelligence support and weapons control systems. In this case, manipulation occurs not only at the information level, but also in the plane of manipulation by technical means. In other words, at the present stage there is a war not only between man and man, machine with man, or man with machine, but also machine with machine. Therefore, the use of a bundle of reflexive management and ICT tools, in our opinion, due to its multi-vector nature and integrating multifunctionality and versatility, is a promising direction in conducting active proactive and attacking actions both in conventional forms of armed and information confrontations, for example, and in the cybersphere, as well as for the formation of a defense system of its own cyberspace.

Thus, the old thesis that "who owns the information, owns the world" has now become not just an overactual, but a vital postulate that determines absolutely all actions in all possible spheres of life of the human community, including the military. But it should be understood that the possession of information at the present stage is not only, strictly speaking, mastering it, but also effective management and qualified ability to create, format, reformat it and skillfully present it not only for their own use, but also for disorientation and information defeat of the enemy.

The role of ICT deserves special attention in the field of information warfare. At the present stage of the development of science and technology, and taking into account the reformatting of the architecture of world security, cyberspace and the media sphere should be recognized as the same equivalent space of warfare, which land, sea and airspace still act. And it is necessary to declare this moment at the international level, as well as in the military or national security doctrines of individual states.

Conclusion

Summing up, we note that, despite the technocratic direction of modern military thought, it is still necessary not to forget the dominant principle of the development of civilization - the establishment of peace and the prevention of escalation of military conflicts in principle. Here we agree with the thesis of Professor I. V. Radikov that "Ensuring national security is a central, strategically important task for the development of each country. Without its solution, any human activity turns out to be purposeless. A low level of security turns into great troubles: the collapse of states, the destruction of peoples, mass bloodshed, destruction and destruction of material values. States, societies, people who do not take due care of their security, as a rule, are not viable" [9]. And the task of State institutions should be not so

much to improve the mechanisms and principles of conducting military operations, but rather to develop architecture and institutional tools for their preventive prevention or peaceful resolution of conflicts at an early stage.

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