Exploration on the Development of Intelligent Equipment Support

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Abstract. With the rapid development of artificial intelligence technology and extensive military application, intelligent warfare has quietly emerged. Facing the new situation, intelligent equipment support, as an important part of intelligent warfare, has become a hot topic in various countries. This paper briefly discusses the basic concepts of intelligent equipment support, and puts forward four stages and main features of the development of intelligent equipment, and provides a reference for the development of intelligent equipment support.

1. Introduction

The development of high and new technology, which is based on information technology, has greatly promoted the improvement of modern military war equipment and the change of the mode of operation. At present, the role of information technology in determining the trend of war is weakening. The current information technology only follows the development of the narrow sense of electronic information, and the development of the electronic information technology will face a bottleneck. Once the information technology changes, it will make the weapon equipment and war mode fundamental changes. At the same time, information technology will develop towards higher intelligence. In recent years, with the development of intelligent technology, artificial intelligence and other related technologies have entered the military field, and the forms of war are quietly changing. The shadow of the intelligent war began to emerge [1]. In the face of the new war situation, the intelligent equipment support work must take the initiative to follow up, seize the opportunity, take the initiative to seek action, and lay the "intelligent foundation" for winning the battle.

2. Concept of Intelligent Equipment Support

Equipment support is an important component of the equipment work, which refers to all the safeguards and the organization and command activities carried out by the army for the smooth operation of various tasks [2-3].

In the unknown field of human endeavor, apart from the universe is human beings, intelligence means the height of biological evolution. Human life is the source of intelligence. At the same time, with the rapid development of the productive forces, human beings create a higher form of machine through their own hands to accomplish something that can not be done by human beings themselves. When the complexity is close to the human brain and even more than the human brain, it is possible to produce new things outside human beings. Artificial intelligence. Ultimately, the "life" created by human beings and human beings will be unified in the form of symbiosis. Human intelligence and
artificial intelligence are combined together. Human beings will enter the intelligent society and will also face intelligent war.

Intelligent equipment support is when people face intelligent war, using intelligent technology to take various safeguard measures to achieve the successful completion of various operational tasks.

3. The Development Stage of Intelligent Equipment Support

3.1. Intellectualized development of the form of equipment support

With the rapid development of information warfare, the complexity, diversity and uncertainty of equipment support system are becoming increasingly prominent. At the same time, with the development of information technology and the application of military field, equipment information acquisition and repair mode are also changing quietly, which brings profound changes to the organization form of equipment support.

In recent years, with the development of intelligent technology and the impact of artificial intelligence technology on the military field, the form of equipment support has gradually changed from the center of sensor, data center and information center to the center of cognition and action. From the perspective of development, the development of intelligent technology is to promote the close interconnection of equipment and equipment support. With the analysis of large data in the battlefield and the improvement of comprehensive processing capacity, the key factors that promote the improvement of equipment support ability from the equipment support unit to the whole system level are further extended to the support system. It extends to the top level of war equipment support management in the whole space. The initial form of intelligent equipment support begins to appear.

3.2. The development stage of intelligent equipment support

It is predicted that the development and evolution of intelligent equipment support can be roughly divided into the following four stages: the development and evolution of the world military high-tech technology [4].

Information technology as the core of the pre intelligent equipment support stage. This stage is mainly based on information warfare. Human being is the main body of the war. Through the acquisition and analysis of information, a large number of complex operations are carried out artificially, so as to make reasonable plans.

The initial stage of intelligent equipment support is based on the manipulation of unmanned platforms. With the development of information technology to a certain extent, at the same time, the development of new materials, manufacturing technology and electronic control technology will push the war to the primary stage of the intelligent war, and enter the primary stage of intelligent equipment support - the stage of unmanned equipment support, that is to rely on Robot to carry out equipment support. After the person retire from the curtain, the robot with high self-analysis ability is mainly used to replace the people to complete the equipment support work, and the robot will be put in the front of the war to participate in the security task. The development of robots symbolizes the level of intelligence. At the same time, the development of robots will gradually enable robots to accomplish some important tasks independently.

The intermediate stage of intelligent equipment support is centered on consciousness control. With the development of life science, it is easy to predict that when some artificial intelligence technologies break through the bottleneck, humans will directly control the robot by means of consciousness. At this point, the robot is not a robot composed of simple inorganic materials, but a combination of organic materials and inorganic materials to produce robots that are close to human beings. At present, the robot has higher autonomy ability and can complete various safeguard tasks. At the moment, the robot will be macroscopically supervised and controlled. The control of robots in the war has become the focus of war.

The advanced stage of intelligent equipment support is centered on machine group cooperation. Machine group cooperation is the equipment support stage when the robot develops to a high level and
develops to a certain scale as a high-end agent. The characteristic is that it can cooperate with a certain scale to complete the large-scale combat support task. With the development of computer technology, there will be a breakthrough in computing power, and the ability of robot learning will also be greatly improved. While the life of the human is limited, the robot can constantly learn to accumulate new knowledge, and with the replacement of the computer, the robot will have better performance, and have the ability of supercomputing, super storage and super learning. The robot will take part in the service of equipment support in the form of group intelligence. Humans will only maintain the robot system and issue simple command command machines to participate in equipment support.

The final stage of intelligent equipment support is centered on the co-existence of machines and human beings. In the final stage of intelligent equipment support, life science will also make breakthroughs. Human body function will be greatly improved, and life expectancy will be greatly improved. At this point, human intelligence and artificial intelligence will promote each other. Human beings are committed to the study of artificial intelligence, and artificial intelligence will also promote the excavation of human intelligence. The human brain will be developed indefinitely, and the learning ability of human beings will also be greatly improved. "Homo sapiens" will become "intelligent God". Finally, the form of equipment support will reach the unity of man machine and human, and the height of human and robot. The two coevolved and interdependent. Human body functions will also become stronger by combining with machines. The main body of equipment support will be the combination of man and machine.

The development trend of intelligent equipment support is not hard to predict. In the course of human history, artificial intelligence has obviously affected people's work and life. People's work and life have changed greatly due to the development of science and technology. People have gradually become dependent on all kinds of high-tech, while this dependence is gradually deepening, it is not difficult to imagine, in the ultimate stage of intelligent development will be symbiotic. People will depend on each other and develop each other [5].

4. Main Features of Intelligent Equipment Support

Intelligent robot has become the main body of intelligent equipment support. When nanotechnology has made some breakthroughs, miniaturized robots will go deep into all fields. Micro autonomous robots and intelligent repair robots will be put into the battlefield for equipment support. Miniaturization, precision and large area coverage of intelligent robots become the main support force in intelligent warfare. Human beings can better protect themselves and perform tasks in a space-time domain through conscious control of the machine groups in the war zone, and all kinds of robots are guaranteed in the front line.

The level of equipment support will widen the gap between countries. The level of equipment support implies the strength of the national military strength. In the future, competition among military powers will become more intense. Compared with other countries, the military superiority of a few military powers is more prominent, and the gap between the strong and the weak will be bigger and bigger. A handful of military powers that master core intelligence technologies can "deter" the enemy. For countries or organizations that do not have intelligent technology, there is basically no strength to fight back. The competition of intelligent technology will be more and more intense. With the development of intelligent technology, the countries that give priority to development have obviously left behind the country.

The innovation of basic theory will make great changes in the mode of equipment support. From ancient times to the present, we can see that the speed of social progress is getting faster and faster. The research results of pure basic theory are constantly transformed into applied basic research, thus promoting social progress. Demand promotes development, and weaponry has always been an important research topic. With the development of science and technology, many years in the past will take decades to translate basic theories into applications, and there will be substantial results in a few years. Because of the particularity of weaponry and the instability of war, based on the urgency of
intellectualized research of equipment support, human beings will be committed to the transformation of technical achievements, so that the equipment support mode has changed greatly.

5. Concluding Remarks

Intelligent equipment support is the product of war with the advent of intelligent warfare. This paper mainly discusses the basic concept of intelligent equipment support, and puts forward the development stage and main features of the intelligent equipment, which provides the direction for the development of intelligent equipment. At present, intelligent warfare has entered the field of vision, and intelligent equipment support can not be ignored. With the development of science and technology, we must seize the opportunity and take the initiative to develop, laying the foundation for winning the battle.

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