APPLICATION OF ARTIFICIAL INTELLIGENCE IN CONTROL OF ELECTROTECHNICAL DEVICES

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Introduction. Control of electrotechnical devices with the help of artificial intelligence can be considered as an intelligent update of the current industrial process. The development of artificial intelligence technology, which combines intelligence for many reasons, is critical to its use. The technology of controlling electrotechnical devices has turned into a fairly mature technological system, and the use of artificial intelligence technology expands the capabilities of this industry.

When artificial intelligence (AI) is used in electrotechnical automation, it can improve control efficiency and further expand the scope of the electrotechnological complex. As a result of the combination of big data and cloud computing technology, as well as electrical automation, the economic potential of relevant data can be fully stimulated, which allows cloud computing technology to solve the problem of data information, and also enables accurate and objective data analysis [1–4].

The purpose of this article is to review the importance of artificial intelligence in improving the management of electrotechnical devices. The use of intelligent monitoring technologies, real-time tracking of abnormal data and early detection of equipment problems can be signs that the electrotechnical network, whether hardware or circuitry, has a problem. To solve a problem after it occurs, AI uses neural networks, fuzzy theories and expert databases to speed up troubleshooting, keep the system up and running, and reduce financial losses. The level of intelligence of automation tools must be constantly increased to achieve reliable operation and predictable operation and maintenance in the equipment of electrotechnical devices.

Materials and research results. The electrotechnological complex system requires highly qualified personnel for its operation. This is necessary to reduce the risk of mishandling and human error, which can lead to various types of damage, and ultimately to the loss of valuable time and resources. As a result, artificial intelligence technology will be crucial in solving such tasks. Computer intelligent control can be achieved using computer theory to create appropriate software for electrotechnical devices. Electrical equipment that functions independently can eliminate the need for human intervention, which not only increases productivity, but also reduces operational and design costs. On Fig. 1 shows the artificial intelligence control system for electrotechnical devices. In addition, artificial intelligence technology has the potential to improve the scientific functioning of electrical automation equipment, as well as to optimize the real environment in which the equipment operates.

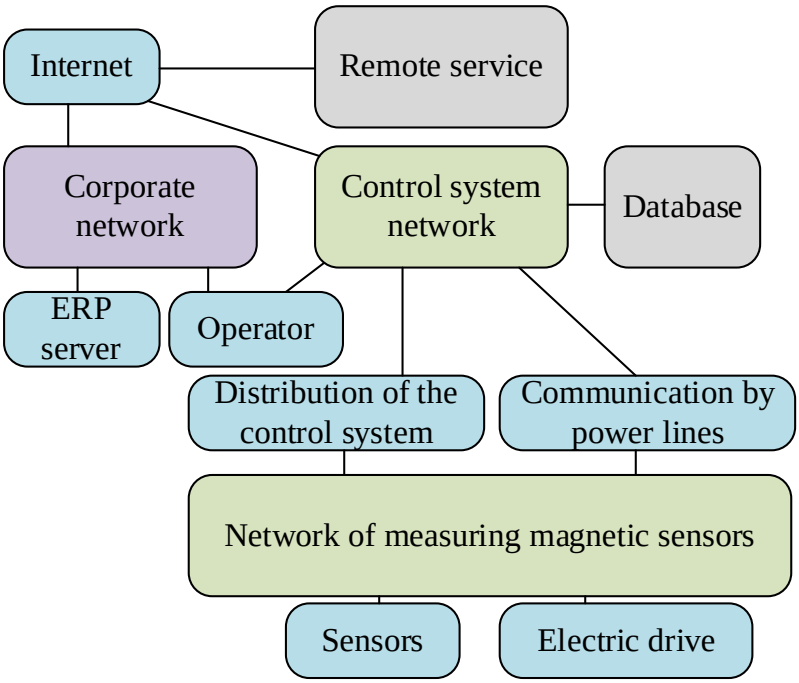

Figure 1 – Control system of electrotechnical devices

Conclusion. The work considered how artificial intelligence is used in the management of electrotechnical devices. This study presents an overview of artificial intelligence, including its use in electrical equipment, electrical control, and problem diagnosis. As science, technology, and the social economy continue to evolve, so do the demands for AI applications. With these benefits in operational efficiency, reliability and problem detection can be achieved by integrating artificial intelligence into the control system of electrotechnical devices, which can help companies save money and time.

Currently, artificial intelligence is widely used in the management of electrotechnical devices, increasing the authority of the energy industry. However, there are still some problems. As a result, experts in the field must continue to research and develop new applications of artificial intelligence technology to drive further progress.

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