

## Original Paper

# Analysis on Modern Application and Development Demand of Electronic Information Engineering

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### **Abstract**

*In recent years, there has not been a large-scale promotion of high-precision technology, resulting in the core technology can not be effectively applied in enterprises and related industries still need to further develop electronic information engineering. In this regard, combined with the market economic development situation, intelligence and digitalization has become the main direction of the development of electronic information engineering, through the construction of a perfect information management platform, can make efficient use of resources, a wide range of popularization of science and technology. In the context of the Internet era, people's daily life has changed dramatically, especially the information transmission will become more rapid, efficient and convenient. In the expanding scope of application of computer network technology, can realize the efficient transmission and sharing of information, in the field of electronic information engineering, through the application of computer network technology can effectively ensure the quality of information, and lay a good foundation for the smooth progress of information engineering reform work. In the process of promoting the efficient integration of the two, can make the electronic information engineering needs to be met, which should also increase the integration of resources, computer network technology research and development and application work, so that people's daily lives to enjoy more convenient conditions. The application of digital information processing technology can break through the traditional mode of communication in the application of the process of various shortcomings, prompting the development of digital information engineering more and more rapid. The application of this technology can make all walks of life for information activities to fully meet the needs of all sectors of society, to ensure the smooth and stable information construction activities, so we need to combine the actual situation to further optimize the digital signal construction system, so that it plays a greater role in electronic information engineering. Based on the above situation, this paper focuses on the innovation and development of modern electronic information engineering.*

**Keywords**

*Electronic information engineering, Information engineering, Computer network, Artificial intelligence*

**1. Introduction**

With the progress of science and technology in China, automation technology has also been combined with electronic information engineering, and electronic information technology has realized the development of automation. Science and technology have promoted the development of electronic information automation, especially the changes in market structure have brought good opportunities for the development of electronic information automation technology. There are still many deficiencies in China's electronic information automation technology, mainly due to the lack of core technology and professional talents. Therefore, the advantages of electronic information automation and the current development status in China are analyzed, and the future development prospects of electronic information automation are discussed. Electronic information engineering is an important engineering content in our country, the development of electronic information engineering is of far-reaching significance, because electronic information engineering has played a very key role in many fields, therefore, accelerating and promoting the development of electronic information engineering is a social task at present. Intelligent technology belongs to the modernization of products, is a typical high-end technology, the application of electronic information technology in the industry, can change the production mode of the industry, innovation and development path, for electronic information engineering, the application of the technology is also of great significance, through technology integration, the design and operation mode of electronic information engineering can be effectively innovated, solve a large number of industry production problems, electronic information engineering will thus obtain a stronger forward momentum. At this stage, China has entered the information society, and has a lot of contact with electronic information technology everywhere in work and life, and many industries are involved in electronic information technology, such as the communication industry, the Internet industry, etc. In order to make better use of electronic information technology to promote the development of society, we must focus on the analysis of its application characteristics and predict its future development trend, so as to better provide convenience for our work and life and further improve people's living standards.

**2. Introduction to Electronic Information Engineering**

The so-called electronic information engineering technology, that is, with the power of modern technology, to realize the development and application of electronic information, which includes a number of aspects, including the development of information systems, electronic equipment, design and integration, etc., not only for the dissemination of electronic signals and Internet data, but also for the transmission of computer integrated circuits and sound images. Electronic information engineering also involves all aspects of production and life, such as monitoring systems, communication systems,

manufacturing systems. Currently, in the economy, science and technology, living standards development to a certain extent, electronic information engineering technology can achieve the purpose of comprehensive coverage of the field of life, to bring people a better life, so that China's economic and social development is more perfect. And in the industrial development of the performance of the more obvious, in China's industrialization process continues to accelerate the background of the application of electronic information engineering technology is also growing, such as the installation of electronic control systems in large-scale assembly factories is becoming more and more common for the operation of machinery and equipment to provide convenience, not only to reduce the difficulty of the work, but also to improve the efficiency of the work of the factory has a great deal of improvement in the production of a more clearly defined link, both Can provide protection for the work quality of the project, but also can realize the rational allocation of funds, improve the utilization rate of funds. The technology of electronic information engineering is based on the technological revolution of the Internet of Things, big data and artificial intelligence, and has gone through two stages of automation and informatization in the transition from the traditional industrialized era to electronic information engineering. After decades of accumulation, new modes of production, lifestyle, innovation, linkage and underlying driving forces have produced fundamental changes, giving rise to an endless stream of new industries, new business forms and new models, and presenting completely new features of technological and economic development. The rapid development of the information revolution has changed all this, first of all, greatly shortened the time and space distance, customers through the Internet to conveniently shop for their preferred products and services, so as to meet their personalized needs. The rapid rise of e-commerce, especially live streaming with goods, have further clarified the direction of transformation oriented to the needs of customers. The current situation of the modernization technology of electronic information engineering. At present, a considerable part of China's electronic information engineering technology relies on foreign introduction, and the local development technology is still insufficient in the degree of advancement as well as in the applicability, which to a certain extent affects the road to the autonomy of China's electronic information engineering. In the context of industrial upgrading and transformation, it is necessary to pay attention to the research of electronic information technology, and give more attention and support to the relevant enterprises, so as to ensure the development of China's electronic information engineering technology system. Sub-information engineering is an important engineering content in China, and the development of electronic information engineering is of far-reaching significance. Since electronic information engineering plays a very crucial role in many fields, accelerating and promoting the development of electronic information engineering is a social task at present. Intelligent technology belongs to the product of modernization, is a typical high-end technology, electronic information technology in the industry, can change the industry's production mode, innovation and development path, for electronic information engineering, the application of the technology is also of great significance, through the fusion of technology, electronic information engineering design as well as the mode of operation can be

effectively innovated to solve a large number of industry production problems, electronic Information engineering will thus obtain stronger forward momentum.

### 3. Current Situation Analysis

In recent years, China's computer electronic information engineering technology has advanced by leaps and bounds, combined with its previous development history, the technology has significant comprehensiveness and rigor in the processing of data, can use the technology to screen massive information data resources, and then transmit useful data to the computer control system, the whole process of automation, effectively improve the daily operation efficiency of enterprises. (2) The realization of enterprise information management system can improve the efficiency of enterprise information management. Combined with the actual situation, enterprises often need to deal with a large number of data resources in the process of daily operation and development, and the management of information resources is complex and trivial, and the traditional manual processing of information is inefficient, and there is a certain possibility of data omission, damage and other phenomena. However, with the advent of computer application technology, many problems under the traditional information processing mode have been effectively solved. With the wide application of electronic information technology, the scope of involvement is getting larger and larger, and it has been widely used in various fields, and its intelligent and efficient characteristics are gradually obvious, and electronic information technology has developed rapidly. However, compared with developed countries, there is still a certain gap. Judging from the current application, there are still some problems. First, the development of electronic information technology is closely related to China's economic and technological environment, in the research and development process of new electronic products, capital investment and technical support are indispensable, therefore, the social environment will affect the direction of electronic technology development. If environmental resources are insufficient, the development of electronic information technology will be hindered. In addition, there are many false products in the current electronics industry, and some lawbreakers have taken advantage of legal loopholes, misled scientific research personnel, damaged the market environment, and had a serious impact on the development of electronic information technology. Second, the development of electronic information technology is inseparable from the support of high-end talents. However, at present, there is a shortage of high-level computer talents in China, and although there are many technical talents in the talent market, there is still a shortage of high-end talents. Although many colleges and universities have electronic information technology majors, most of the talents cultivated are not strong in operation ability, and lack of innovation ability, it is difficult to meet the development needs of electronic information technology. In the past, China's main economic industries were industry, agriculture and handicrafts, while electronic information engineering technology was an industry that has been developed with the progress of high and new technology in recent years. Therefore, in terms of experience, compared with other developed countries, there are still many gaps, and the technical

support for independent research and development is relatively weak, resulting in China being at a relative disadvantage in international competition. As far as industrial technology is concerned, its research process needs to go through a long time and accumulate a lot of experience, but China started relatively late in this regard, and there is a lack of corresponding talent support in technology. Therefore, in order to effectively promote the development of the electronic information engineering technology industry, we should continue to learn advanced technology, cultivate cutting-edge talents, and constantly adjust in combination with China's national conditions and the current development situation, and gradually explore a road suitable for the development of electronic information technology in China. Secondly, electronic information engineering technology is a relatively sophisticated and complex professional technology, which has higher requirements for the professional ability of technical personnel, and requires relevant practitioners to have a high professional quality and business level. At present, there is a serious shortage of cutting-edge electronic information engineering and technical professionals in China, which directly hinders the development of electronic information engineering technology.

#### **4. Scope of Application of Electronic Information Technology**

##### *4.1 Application of Electronic Technology to Intelligent Production*

In modern society, intelligent electronic devices are more and more recognized and gradually accepted by people. Nowadays, more and more intelligent electronic devices are recognized by people and gradually push people to an intelligent life. Specifically contains all kinds of intelligent robots, auxiliary office electronic products, visual products, etc., and these electronic products which have been generally recognized by the market, represent the main trend of the current application of electronic information technology. At the same time, a variety of intelligent electronic products that can provide more scientific convenience for people's lives have gradually entered the lives of people. However, because these electronic products have practical characteristics, their development is not perfect. Therefore, they all urgently hope that they can be developed faster and faster to enhance and upgrade the technical maturity and scientific and technological level of intelligent electronic products, so as to change people's way of life.

##### *4.2 Electronic Information Technology in Cosmic Space*

China is at the same time using its own electronics technology to develop the space mode of J16 as well as Dongfeng 14 intercontinental missiles, which has been widely recognized by foreign experts. The development of aerospace electronics will emphasize the superiority of electronic information. In the future, the use of avionics information will also focus on improving the development, control and utilization of electronic systems, thereby enhancing the effectiveness of electronic systems and the level of aviation technology.

#### *4.3 The Application of E-commerce Technology and Government Informatization in the Process of Industrialization and Transformation of China's Enterprises*

In the process of industrial restructuring, with the help of modern electronic science and technology, the enterprise has been equipped with the double enhancement of technology, to achieve the goal of rapid improvement of the enterprise. In this case, it is particularly necessary to establish a unified networked management system between enterprises and enterprises. The construction of the intranet environment, the sharing of information resources between enterprises, as well as the security of information transfer within the enterprise, are inseparable from the support of electronic technology. Fourth, it is conducive to enterprises in the fierce market competition to obtain favorable conditions for development.

#### *4.4 Electronic Information Technology in the Education Industry*

The application of electronic information technology in education not only enhances the effectiveness of traditional teaching in schools, but also corrects and transforms the existing teaching programs. On this basis, combined with multimedia technology, for the learning level characteristics of students at all levels, design a targeted classroom teaching program; good teaching should be targeted. At the same time, the use of information technology for the development and transformation of the education industry has realized the intelligence of the education industry. And the informatization of the enterprise is to inherit and maintain the traditional cultural heritage, and build a broader and wider knowledge space for the majority of users.

### **5. The Development Strategy of Electronic Information Engineering**

#### *5.1 Enhance the Innovation Consciousness of Electronic Information Enterprises*

At present, China's electronic information engineering in the development process is facing fierce market competition. In order to realize sustainable development, electronic information engineering enterprises should enhance the innovation consciousness, innovation research and the first market participants' thinking mode are closely related, so it is very crucial to strengthen the innovation consciousness of enterprise employees. Relevant enterprises can promote technological innovation through communication and coordination with multiple fields. At the same time, to strengthen the relevant technical staff to learn and master the content of policies and regulations in the field of expertise, to recognize their own shortcomings, to improve the enterprise problem, and to improve the competitiveness of the enterprise. In addition, electronic information engineering products need to pay attention to global industrial changes, timely adjustment of the direction of research and development to adapt to changes in the external environment, with high-quality technology and products to meet the individual needs of customers.

#### *5.2 Realize Efficient Sharing of Resources*

The application of computer network technology in electronic information engineering creates conditions for resource sharing. Specific protocols are used in practice, and after connecting to the Internet, it can ensure that all kinds of resource transmission are carried out normally. TCP / IP protocol,

mainly including a specific network interface layer, network layer and application layer, etc., can effectively summarize all aspects of information content, the formation of the corresponding layering system. So that the content of the protocol will not be interfered with, and can be effectively transmitted to a specific location. Relevant personnel according to the electronic equipment to pass the content of the computer network as the theoretical basis, and give full consideration to the protocol standard requirements, to ensure that the flow of information is more efficient. Computer network technology is increasingly used in electronic information engineering, such as many Western countries have developed analog cameras, which bring convenience to people. Unlike traditional cameras, such equipment is installed with about 100 variable resistors, and according to the envisaged working characteristics of continuous adjustment and optimization. In the process of information technology development, the future camera will become smaller and smaller, and the clarity will be greatly improved, the price is also lower, so that people's daily needs to be satisfied. Computer network technology also has the function of guidance, will ensure the transmission of information content efficiency, need to deepen the knowledge of the researchers, integration of various technologies to improve the value of the project.

### *5.3 Expand the Scope of Communication of Electronic Information Engineering to Achieve Efficient Operation*

The arrival of the information age is the inevitable trend of the times. The use of computer network technology to build a perfect data and information sharing system can realize the efficient expansion of the communication scope of electronic information engineering. Among them, the data and information sharing system can only be realized with the support of diversified infrastructures, which include terminal equipment, clients, fiber optic cables and so on. With the support of computer network technology, the communication scope of electronic information engineering can be further expanded to realize globalized communication. In addition, computer network technology in the specific application of electronic information engineering has shown great advantages, such as data and information can be efficiently collected, transmitted, processed, and also can play its convenient, operable characteristics, laying the foundation for the efficient operation of electronic information engineering, to meet the development of the era of the high demand for information. At this stage, under the technical support of computer network, the information acquisition, release, processing and operation efficiency of electronic information engineering is getting higher and higher, which promotes the realization of the coordination between the construction of electronic information engineering and the pace of development of the informationization era, and meets the needs of social development in the new period.

## **6. Obstacles in the Development of Electronic Information Engineering**

Innovation is the source of sustainable development of enterprises, it allows an enterprise to obtain strong competitiveness, but also the basic driving force for the continuous development of the

enterprise forward, however, at present, China's electronic information enterprises independent innovation consciousness is poor, equipment basically rely on foreign imports, with independent innovation of intellectual property rights of the enterprise is relatively small, not to mention the core technology patents. Product production and research and development of independent enterprise mode has not really established, this phenomenon is not conducive to the development of enterprises.

## **7. Future Development Trend of Electronic Information Technology**

### *7.1 The Future of Electronic Information Technology toward Intelligent Development*

The future of electronic information technology should gradually towards the intelligent development, through intelligent technology can better bring great changes to our work and life. Now the electronic information technology already has certain intelligent functions, such as line faults can be automatically repaired, can be in the production line failure in time to stop the production work, which can better promote production safety. It is also able to carry out the remote control of curtains through smart phones as well as the observation of children in the kindergarten in the cell phone, which is very intelligent. In the future development, electronic information technology should become more intelligent, for example, the time to pull the curtains can be timed, like an alarm clock, so that you can not have to manage the curtains, thus facilitating people's lives.

### *7.2 Electronic Information Technology toward the Development of Nanoscale*

With the gradual development of electronic information technology, in the future development process, gradually able to realize the application of nanoscale technology. Through the development of technology to gradually carry out the reduction of the area of electrical components, but also able to realize the corresponding function, the development of society has a very large role in helping. Electronic transformer is the largest area of all electronic products in one of the components, in order to better adapt to the development of miniaturization, it is necessary to carry out certain optimization and transformation of its work, so as to be able to better carry out the use of new materials, and effectively reduce the area occupied by the electronic transformer, to the direction of the development of thin and light, and reduce energy loss. In the future development, I hope to be able to carry out the production of smaller area micro transformer, so as to realize the progress of electronic information technology.

## **8. Concluding Remarks**

In conclusion, in recent years, electronic information technology has gained attention in various fields, and our country attaches great importance to the development of electronic information technology, and has incorporated this technology into the key development projects in the future in its development strategy. Electronic information technology can not only improve people's living standards, but also can improve the depth of network technology, the application of this technology will promote the electronic information products more efficient. In the process of applying electronic information technology, need to fully analyze its application characteristics, and the future development of the situation closely

linked to promote the long-term development of electronic information technology. Electronic information engineering has a wide range of applications and plays a positive role in social production and the development of management in different industries. Intelligent technology has many functions, and the integration of intelligent technology can promote the development of electronic information engineering. Specifically, in the design, production and management control of electronic information engineering, the application of intelligent technology has significant advantages. In order to accelerate the integration of technology, it is necessary to strengthen the intelligent research and development of electronic information engineering, and actively integrate the application of intelligent technology in the fields of product design, auxiliary production, fault detection and Internet data center, in order to promote the application of the advantages of intelligent technology to be effectively played.

### References

- Liu, P. (2015). The Application Status and Development Prospects of Modern Electronic Information Engineering Technology. *Shang*, 2015(09), 199.
- Qu, J. (2017). The Application Status and Development Prospects of Modern Electronic Information Engineering Technology. *Digital World*, 2017(12), 541.
- Shen, C.-K. (2017). Application research of Virtual Private Network Technology in Computer Network Information security. *China New Communications*, 19(9), 127-128.
- Wu, L. S. (2017). Analysis of Reliability Related Problems of Electrical Automation Control Equipment. *China Equipment Engineering*, 2017(14), 231-232.
- Zhou, J. (2018). Application research of Virtual Private Network technology in Computer network information security. *Digital World*, 2018(1), 123-124.