

The core position of electronic systems engineering in the development of modern technology

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Abstract: With the continuous advancement of modern technology, the status of electronic systems engineering has become increasingly prominent. Primarily composed of computer technology, communication technology, and automatic control technology, it serves as a fundamental support for modern technological development. Therefore, it is imperative to intensify research on electronic systems engineering to elevate the level of modern technological progress, thereby accelerating the rapid development of science and technology in our country. This paper provides a concise analysis of the pivotal role of electronic systems engineering in modern technological advancement. It begins with a brief introduction to the definition and characteristics of electronic systems engineering, followed by an examination of the demands placed on it by modern technological development. Finally, the paper explores the role of electronic systems engineering in information transmission, aiming to offer valuable insights for researchers homo sapiens in related fields.

Keywords: Electronic systems engineering; Modern technological development; Pivotal role

Introduction:

With the rapid development of China's economy and the continuous advancement of science and technology, electronic systems engineering, as a part of science and technology, plays a significant role in the development of modern technology. The characteristics of electronic systems engineering include broad coverage, high information content, extensive influence, wide-ranging involvement, and broad application scope. In the process of modern technological development, electronic systems engineering plays a crucial role, primarily because it enables automated control and information transmission, thereby providing convenience for the daily lives of Homo sapiens. Therefore, it is necessary to strengthen the analysis of the core position of electronic systems engineering in modern technological development to enhance the level of China's scientific and technological progress. Below, we will explore the role of electronic systems engineering in modern technological development based on its foundational principles.

1 Definition of Electronic Systems Engineering

Electronic systems engineering is a type of systems engineering based on systems science and control theory, utilizing electronic technology and computer technology to plan, organize, coordinate, control, and manage electronic systems in accordance with the overall design requirements of engineering projects. Its primary task is to analyze and design systems to effectively address technical challenges in engineering projects and enhance operational efficiency. Additionally, it can effectively reduce project costs and improve economic benefits. Electronic systems engineering plays a crucial role in modern technological development, primarily relying on computer technology, communication technology, and automatic control technology. Therefore, it is essential to strengthen research in electronic systems engineering and drive modern technological advancement by continuously refining and improving it.

2 Characteristics of Electronic Systems Engineering

Electronic systems engineering is based on electronic technology and computer technology, and therefore possesses the following characteristics: (1) Wide coverage: Electronic systems engineering applies various electronic technologies to support different industries, giving it a broad range of applications. (2) High information content: Electronic systems

engineering involves a vast amount of information, capable of collecting and organizing relevant data, which is then processed through the system to enable effective analysis of various data, thereby supporting modern technological development. (3) Extensive influence: Electronic systems engineering is a project-based discipline that plays a crucial role in engineering projects. (4) Broad applicability: Electronic systems engineering can function across different industries, making its application scope exceptionally wide.

3 The demand for electronic systems engineering driven by modern technological advancements

The advent of the information society has seen electronic systems engineering play an increasingly vital role in modern technological development, providing convenience for Homo sapiens and driving societal progress. In the contemporary information society, electronic systems engineering holds significant importance as it delivers information services in various forms to meet the growing demand for information among Homo sapiens. Additionally, electronic systems engineering can offer diverse services through its inherent functionalities, assisting Homo sapiens in better achieving an information-driven lifestyle. For instance, it enables the management and control of various household appliances, thereby improving the quality of life for Homo sapiens. Furthermore, electronic systems engineering facilitates the collection, storage, transmission, and processing of information, enhancing efficiency in these domains.

3.1 The rise of homo sapiens artificial intelligence

In modern society, artificial intelligence has become an important technological means that provides convenience for Homo sapiens' lives and drives social development. By processing and analyzing vast amounts of data, artificial intelligence helps Homo sapiens better achieve intelligent living, with particularly significant applications in fields such as transportation, healthcare, agriculture, and military. For example, artificial intelligence has been widely applied in intelligent transportation systems, where it processes massive amounts of road traffic information to help transportation management departments more effectively manage traffic conditions. In the medical field, artificial intelligence has also seen extensive use. It provides Homo sapiens with better medical services, aiding in more accurate disease diagnosis and treatment.

3.2 Development of Internet of Things technology

With the continuous development of Internet of Things (IoT) technology, it has been applied to various fields in the lives of Homo sapiens. For example: In agricultural production, IoT technology monitors the growth conditions of crops, thereby enabling scientific production of agricultural products. In logistics management, IoT technology has also been widely adopted, as it can track the location of goods to facilitate rapid transportation. In environmental protection, IoT technology can monitor atmospheric pollution, thereby promoting sustainable environmental development. In healthcare, IoT technology collects and processes medical information, contributing to the advancement of medical standards. IoT technology plays a crucial role in modern technological development, driving the progress and innovation of science and technology in China.

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4.1 The Role of Electronic Systems Engineering in Information Transmission

The role of electronic systems engineering in information transmission is highly significant, primarily because it possesses strong capabilities in transmitting information. It can efficiently transmit relevant data in electronic form at remarkably high speeds without any loss during the process, giving it a substantial advantage in information transmission. Additionally, electronic systems engineering enables rapid conversion between different types of data, significantly improving data conversion efficiency and further enhancing its advantages in information transmission. Moreover, it facilitates mutual conversion and sharing among various data types, thereby further boosting the efficiency of information transmission.

4.2 Application of Electronic Systems Engineering in Smart Devices

Through the aforementioned research on electronic systems engineering, it can be observed that electronic systems

engineering plays an extremely significant role in the development of modern technology. It not only drives continuous technological advancements but also provides substantial support for the economic development of our country. In recent years, with the continuous progress of science and technology in China, the application of electronic systems engineering in intelligent devices has become increasingly widespread, such as in smart transportation, smart agriculture, and other fields. For instance, in the field of smart transportation, electronic systems engineering primarily focuses on real-time monitoring and management of traffic flow, thereby effectively ensuring traffic safety. Additionally, electronic systems engineering can promptly process and control traffic information, providing homo sapiens with more convenient travel methods and road information, thus greatly facilitating their mobility.

4.3 The Contribution of Electronic Systems Engineering in Industrial Automation

With the continuous development of China's economy, industrial automation technology has also been advancing, and the application of electronic systems engineering in industrial automation has become increasingly widespread. For instance, in the power industry, electronic systems engineering can effectively monitor grid operations, thereby ensuring the safety of power grid operations. Additionally, there are numerous applications of electronic systems engineering in mechanical equipment. For example, in industrial control systems, the application of electronic systems engineering can significantly enhance the operational efficiency of these systems, ensuring their safe operation. Furthermore, electronic systems engineering enables real-time monitoring and management of mechanical equipment, thereby ensuring their normal operation. In summary, as the application scope of electronic systems engineering continues to expand in modern technological development, it plays an increasingly vital role in the economic development of our country.

5 Conclusion

With the continuous development of China's economy and the continuous improvement of its technological level, the application scope of electronic systems engineering in modern technological development has become increasingly broad, playing an increasingly important role. The application of electronic systems engineering not only enhances work efficiency and ensures production safety but also, to a certain extent, drives the development of China's economy. Therefore, as an indispensable part of China's modern technological development, we should emphasize the core role that electronic systems engineering plays in modern technological advancement.

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