

Talking about the Application of Automation Technology in Mechanical Design

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Abstract

The development of automation technology has brought new development directions for the machinery industry. Mechanical design is the top priority in mechanical engineering. In order to ensure that the mechanical design can meet the design standards of mechanical manufacturing and production, automation technology can improve the efficiency of mechanical design and production, promote the automation process of the entire link, and save a lot of manpower, material and financial resources.

Keywords

Automation technology; Mechanical design; Application.

1. Introduction

Mechanical automation technology needs to rely on the continuous development of advanced technology such as computer technology and network information. Through the application of advanced technology, it not only promotes the automation process of mechanical design, realizes the intelligent development of mechanical design and manufacturing industries, but also helps computer technology better Integrate into the mechanical design automation technology, and then promote the sustainable development of the mechanical design industry.

2. Application Analysis of Automation Technology in Mechanical Design

Automation technology is an extension of artificial intelligence technology. In order to comply with the improvement of the social economy level and the continuous development of science and technology, to ensure the product quality and efficiency in the mechanical design and production process. We can apply automation technology in the mechanical design and production process to promote the automation process of the industry. In this way, not only can you intuitively discover the deficiencies and problems in the mechanical product design and production process, and then make certain improvements and adjustments to the problems. It can also improve the quality and efficiency of mechanical design and production, so as to meet the needs of social development. During the operation of science and technology and mechanical equipment, the application of automation technology in mechanical design not only improves the quality and efficiency of mechanical production, but also reduces the consumption of a large amount of manpower, material and financial resources. Therefore, the application of automation technology in mechanical design can promote the innovative development of mechanical design and manufacturing. It provides a new direction for the formulation of the future development strategy of the industry. Meet the demands of the modern social environment for the mechanical design industry.

3. Application of Automation Technology in Mechanical Design

(1) Application of Automation Technology in Integrated Design of Mechanical Engineering

With the rapid development of modern science and technology, the application of automation technology, the development of automation has gradually become a common phenomenon in various industries and fields. The application of automation technology in the mechanical design industry has achieved certain results and progress. The application of automation technology in the integrated design of mechanical engineering requires the integration of system theory, related information technology use and operational requirements into the integrated design of mechanical engineering. Through the clever application of automation technology, the purpose of applying automation technology in mechanical engineering is achieved. Through the integration of mechanical design, mechanical manufacturing, and mechanical management to achieve the needs of integrated design, then divide the content of various activities and integrate technical resources to promote the development and construction of the industry as well as efficiency and quality.

(2) Application of Automation Technology in Virtual Design of Mechanical Engineering
The application of automation technology in mechanical design can completely save enterprises a lot of material resources, financial resources and manpower, and it has a positive effect on the quality and production efficiency of their products. Therefore, for the application of automation technology, it is first necessary to ensure the economic benefits and social benefits of the enterprise, so as to promote the automation process of mechanical design and production through automation technology. The application of computer technology in the virtual design of mechanical engineering is mainly through related design concepts and advanced computer technology to excavate, study and improve in time the problems arising in the mechanical manufacturing process. While ensuring the quality of mechanical engineering design, improve its overall production efficiency, so as to promote the progress and development of mechanical engineering design.

(3) Application of Automation Technology in Flexible Automation Design of Mechanical Engineering

The main purpose of applying automation technology in the design of flexible automation in mechanical engineering is to conduct comprehensive and effective management of mechanical design, production, and manufacturing with the help of computers, so as to improve the overall strength of the enterprise and increase its market competition force. With the improvement of the socio-economic level and the continuous development of the mechanical engineering industry, the mechanical industry has increasingly higher requirements for the introduction of technology, which requires breaking the traditional mechanical engineering design and manufacturing concept to meet the development of the mechanical engineering industry. According to the development and changes of the social environment, comprehensively considering market development needs and customer needs, adjust the enterprise operation mode and structure composition. For the application of automation technology in the field of mechanical design, it is necessary to continuously deepen the overall structure of mechanical engineering automation design, and continue to adjust, improve the technical system of mechanical automation to promote the healthy and stable development of the mechanical design industry. Among them, the application of flexible automation design can effectively reflect the innovative English of automation technology, and the application of flexible automation design can effectively promote the development of mechanical design and manufacturing field. It is primarily through the structure of the corresponding control, model design, related information detection and information security state examination set, relying on the computer technology to build the system of control center, and then through the computer technology to mechanical engineering design work efficiency and work quality control, to ensure the application of computer technology, it can effectively promote the sustainable development of the mechanical design and manufacturing industry.

(4) Application of Automation Technology in Automatic Testing System of Mechanical Engineering

The integration of computer technology into automation technology has an extremely important positive effect on the development of the mechanical engineering design industry and the improvement of the level of mechanical engineering design. Among them, the automated detection technology system platform is not only a technology system platform formed by relying on computer virtual technology (as shown in Fig. 1), but also an important technology for the construction of the automated detection technology system platform. Although it is similar to mechanical engineering virtualization involving individual parts, there are still some differences overall. Among them, by organizing, designing and applying computer-related technologies, the need and dependence on human control of automated detection system technology in mechanical engineering design are reduced. Through the collection and detection of related information by automated monitoring system technology, the quality and performance of related technical systems and equipment construction in mechanical design can be judged, thereby ensuring the normal progress of mechanical production and management. As far as possible to eliminate the impact of failures and adverse conditions on the machinery production and manufacturing process, at the same time, we must find out the failures and adverse conditions in time to ensure the work quality and efficiency of the machinery manufacturing, thereby ensuring the benefits of industrial operation.

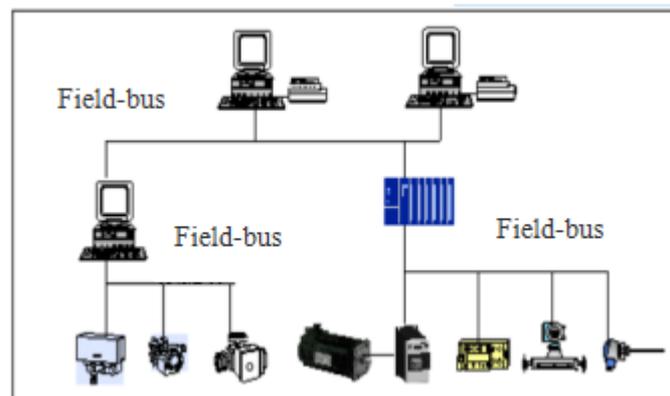


Fig 1. Automation technology in mechanical engineering automation detection system.

4. Conclusion

To sum up, the application of automation technology in mechanical design is not only conducive to the improvement of mechanical equipment productivity, but also can meet the needs of the social market, to help promote mechanical design and production. While improving the efficiency and quality of machinery production, reduce costs and waste of human resources. However, in order to better promote the development of the machinery industry, automation technology cannot be blindly added, Instead, it should be based on the actual situation in the mechanical production process and reasonably use automation technology to reform the mechanical design industry, so as to achieve the improvement of mechanical production quality and efficiency.

References

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