Abstract. Describes the characteristics and specifies the requirements to the electronic document management system of reference customized specifications are the main factors ensuring the effectiveness of using paperless technology.

Keywords: custom specifications, computer technologies, equipment, technical documentation, schematic plan.

Working with customs in the rail industry involves design and maintenance. Both interrelated problems are solved today in many respects according to the old “paper” technology, which does not use the achievements of computer technology. But the situation is gradually changing and over the past few years, all the improving equipment of the computer equipment of the railway industry made it possible to seriously approach the solution of the problem of transition to computer-aided design technologies and maintenance of custom specifications, which provide qualitatively different opportunities to facilitate labor through the use of various automated workstations and computer-aided design systems.

The increase in interest in computer-aided design (CAD) systems in the railway automation industry is due to a number of objective reasons, the main ones of which are: a) a dramatically increased volume of design work, which is caused by a high degree of aging of technical equipment in operation; b) lack of the required design capacity of design institutes; c) the need to increase the speed of production of design work, due to their large number. Therefore, the use of CAD in the design of railway automation systems is not only preferable, but also necessary. The systems used for this are automated, represent simple editors that allow filling out the fields of reporting forms and printing reporting documents with a low degree of automation. A new information space using approved technologies and standards, the work of which will be based on the use of the achievements of computer technologies. The use of computer technology is an effective tool that can speed up and automate the process of maintaining custom specifications, significantly reduce the amount of routine work and design time.

In accordance with the normative documentation and the performed studies, it was revealed that it is necessary to automate the following technological operations: storage of the operating gas station, keeping records and control of its storage; maintaining the base of regulatory documents; creation of new custom specifications;
maintaining an archive of custom specifications; maintenance of custom specifications; making copies of custom specifications; coordination and approval of custom specifications; reconciliation of custom specifications.

Based on the listed tasks and smallpox information trends in documentary management. It is possible to formulate the following requirements for the document flow system for maintaining custom specifications: a) maintaining the integrity of the system and the individual custom specification throughout their entire life cycle; b) use of standard industrial database management systems as a means of storing custom specifications; c) maintaining the interaction of geographically distributed organizations; d) control of all stages of ordering equipment.

The currently widely used "paper" technology for working with specifications, interacting with suppliers, enterprises, factories leads to a huge amount of unproductive waste of time and resources both for employees of the signaling and communication center, signaling and signaling distance, and those associated with them enterprises. Improving the quality of work with custom specifications for automation and telemechanics devices is an important task of information management both in design organizations and at signaling and communication center, and organizations associated with construction and commissioning. Ensuring the quality of work with custom specifications of automation and telemechanics devices can be divided into the following stages (Fig. 1).

![Diagram](image_url)

Fig. 1. Stages of improving the quality of work with custom specifications of automation and telemechanics devices.

Improving the quality and efficiency of drawing up custom specifications is due to the use of computer-aided design systems. When synthesizing circuits, a list of floor automation and telemechanics devices is automatically generated. In addition, an important role is played by the existence of a database of equipment and materials for automation and telemechanics devices. Increasing labor productivity by automating routine operations is an important aspect in the process of automating work with custom specifications. A decrease in the non-creative component of labor also leads to a decrease in the number of mistakes made.

Only the continuous implementation of all the above-mentioned areas of quality improvement will make it possible to inspect the competitiveness of the industry and
increase the efficiency of the entire transport complex. The direction associated with maintaining custom specifications is currently the least developed. Coordination of custom specifications during the conclusion of an agreement for the supply of equipment, transfer of specifications to other organizations is completely absent. Because of this, a large amount of time is lost during the period of ordering and delivery of equipment. It seems obvious that it is necessary to integrate the participants into a single system that allows coordinating and tracking the entire life cycle of custom specifications. Many design organizations use Microsoft Excel to write specifications. Equipment positions are filled in the ready-made template. In this regard, there is a high probability of an error in the correct spelling of the name of equipment, materials, technical conditions, drawing numbers, ratings, etc. The technical documentation includes automation modules that automatically generate separate complex circuits as derivatives of other schemes. For example, based on the schematic plan of the station, tables of interdependence are created, station crossings are calculated, a two-line plan of the station is built, on the basis of which the traction current sewerage scheme is drawn. In addition, there is a function that allows different specialists to simultaneously work with technical documentation located in shared databases. Through a public folder, as through a mailbox, all participants in the electronic document flow can exchange technical documentation. The efficiency of using electronic document management is also determined by the following factors. The transition to paperless technology saves a lot of money spent on paper copies of technical documentation. Due to the lengthy search for documents, if necessary, their operative use may result in train delays. The unsatisfactory quality of the handwritten execution of the technical drawing leads to errors during installation work or to system failures as a whole, and increases the terms of commissioning. Coordination and approval of technical documentation for paper technology require large travel expenses. As a result, the working time of the engineers of the technical documentation groups is wasted. Unfortunately, in the course of the database are filled slowly, which is due primarily to the lack of specialists performing this work. In addition, due to the frequently changing staff of technical documentation teams, it is necessary to constantly improve their qualifications by organizing seminars, internships and training courses. All the considered problems of transition to electronic document management are quite surmountable and can be solved.

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