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## **THE USAGE OF MODERN TECHNOLOGIES DURING THE INVENTORY OF MAIN ASSETS**

Inventory is a method of determining the actual availability of property and financial obligations of the organization and collation of data obtained about them with accounting data in order to establish the reliability of accounting estimates and their refinement in case of discrepancies. Qualified and timely inventory of assets and liabilities of the organization will be relevant always, regardless of the size of the enterprise.

The inventory is of great reference value. Very often there are situations when in documenting the facts of economic activity of the enterprise all sorts of errors, inaccuracies or clerical errors and corrections in the accounting data are made. Therefore it is necessary to do check the completeness and accuracy of accounting.

Inventory is a laborious process, so the manual method of inventory required enormous amounts of time to spend on data collection and processing. In large enterprises in this case it is necessary to attract a large number of employees.

This disadvantage can be eliminated by using automatic identification technologies (AIT). Currently, there are several types of AIT:

1. Visual or "paper";
2. Barcode identification;
3. Radio frequency identification (RFID).

Let us consider in more detail each type. Visual or "paper". When using this type of AIT the obtaining of prepared tasks occurs on paper. Often this "paper" technology helps to effectively solve the problem of automation of storage when moving to new premises when the time for the implementation of a warehouse management system (WMS) is critical.

Barcode identification. Data collection terminals are used for this type of identification. Two types of terminals can be used:

- a) Batch terminals (data processing in the "off-line" mode);
- b) Radio terminals (processing data "on-line" mode).

A significant difference in these terminals is that batch terminals operate in the "off-line" and accumulate information about the fixed assets object in the memory, which in turn is limited in size and, therefore, the employee has to periodically transfer the collected information to other media. Radio terminals operate in real time and send the collected information by Wi-Fi network to the other device (computer).

In order to implement bar coding technology you need to meet certain requirements: to prepare the barcoding base; to buy equipment; to implement a WMS; to establish the organization of new processes; to train staff.

When using bar coding, inventory can be carried out via mobile devices (smartphones, tablets). On these devices, you can install the software "Agent Plus: The inventory of fixed assets (IFA)." This software allows you: to identify the actual availability of the property; to compare the actual findings of the presence of property with accounting data; to control the content and operation of the plant and equipment; to provide remote access to the central database of the property during the inventory. When you go to bar coding it is required to take into account the cost of label printers, labellers.

Radio frequency identification (RFID) is the most expensive to maintain, as the RFID-tags have a complex structure, but it is the fastest method of processing information at remote locations. By reading range RFID-system can

be divided into systems of: near identification (reading is made at a distance of 20 cm); medium-range identification (from 20 cm to 5 m); far identification (from 5 m to 100 m). Tasks to perform operations are issued from the central server to the screen of the radio terminal of warehouse worker. In operation, the radio is read bar code labels or RFID-cells, pallets, goods, etc., and then a comparison with the performance of the job. Depending on the correctness of this operation next step is proposed.

Advantages of RFID:

1. The ability to overwrite. These RFID-tags may be complemented and rewritten many times, while the data on the bar code-recording the printing are immediately and cannot be changed.

2. Lack of need for direct line of sight. To read data from the RFID tag-reader does not require line of sight. Consequently, the tags can be detected through the package, making it possible to cover their deployment. Barcode reader requires line of sight to bar code to read it.

3. Bigger reading distance. The RFID-tag is read at much greater distances than bar code.

4. Bigger amount of data storage. The RFID-label stores much more information than a bar code.

5. The ability to read a few labels. Industrial readers simultaneously read multiple (more than one thousand) RFID-tags per second. Reader barcode at a time can only scan one barcode.

6. Reading data labels in any of its location. To ensure the automatic reading of bar code standards committee (including EANInternational) has designed placement rules for barcode labels. RFID tags do not have such requirements. This mark must be within the coverage area of the reader only.

7. Resistance to the environment conditions. RFID-tags have an increased strength while the bar code is easily damaged by moisture or pollution.

8. High degree of safety. The data on the label can be encrypted. In the production of the label is assigned a unique unchangeable number identifier, which provides a high degree of protection against forgery. RFID-tags have the ability to password-protect data read and write operations, encrypt their transfer. One label can store public and private data at the same time.

However, RFID has its drawbacks: noise exposure in the form of electromagnetic fields; the cost of the system is higher than the cost of accounting system based on bar codes; the complexity of the independent production; lack of regulatory control of the technology.

Thus, the use of AIT of radio frequency identification (RFID) is the most effective and high quality during the inventory of fixed assets, but also the most expensive. For a large organization the cost of implementing this technology, will be repaid at the expense of the quality of work performed. If necessary for the implementation of this system costs are impossible for the enterprise, bar coding system is the most optimal method of inventory.

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