Brief description of the Automated System developed for counterfeit elimination and control of product origin.

1. The system is designed for prohibition of counterfeit equipment use while holding FIE competitions.

2. The system (Pic. 1) consists of software and hardware parts including:

1) Server part, the component parts of which are:

- Server;

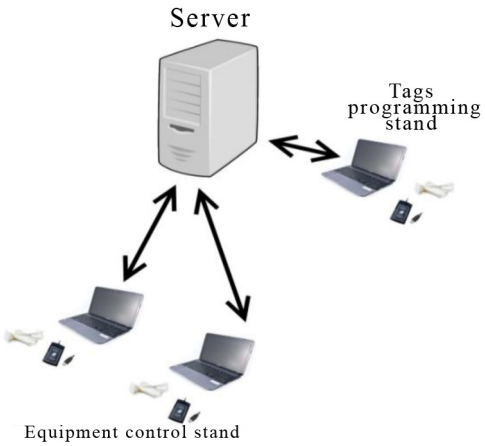
- Data base application, designed for accumulation and storage of information from different resources, necessary to identify products;

- Program modules of information collecting and loading to database, providing the possibility of automatic and manual data input from different resources;

- Program administration modules, providing execution of database maintenance operations, user account management and access rights differentiation of system resources;

2) Control stand consists of scanners connected to computer with client application to work on products identification workplaces by data reconciliation with central storage;

3) Stand to program tags, consisting of scanners, connected to computer with client application for tags reading, reprogramming and information exchange with data base.



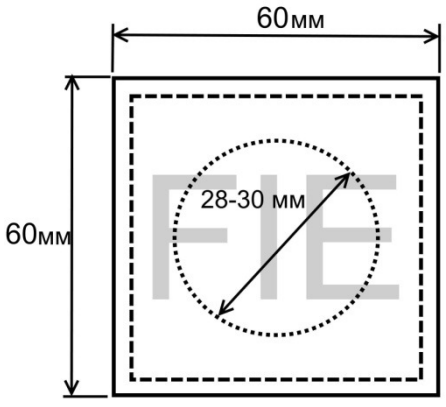
Pic.1

Short description of system operation.

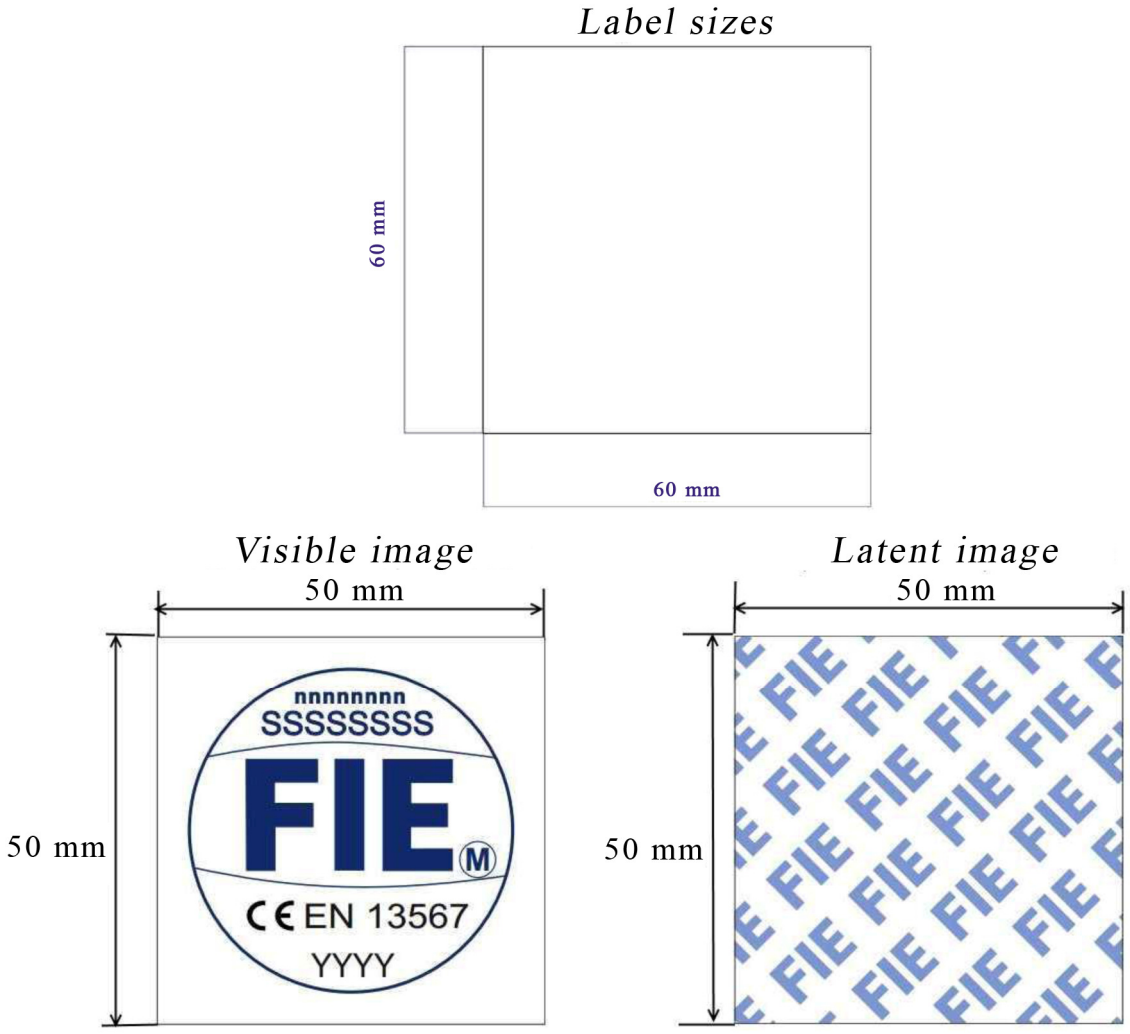
A unique ID number is written on radiofrequency tags (RFID) which is protected against copying by cryptoalgorythm. Also the information about the stored numbers is recorded to the database. The tags are passed to the producers of sports fencing equipment. The producers build in tags into sports equipment. While holding FIE competitions, equipment authenticity is checked on the separate stand by reading out tag information and sending it to the remote server. A comparison of the information read out of tags and one in the database is made on the Server. In case of information coincidence the server produces a signal to the stand about the equipment authenticity. Otherwise, there is a signal that the equipment is counterfeit.

General requirements for the producers.

1) Tag is 2-2,5 mm thick, round – 28-30 mm in diameter or rectangular – 54x27 mm in size, is placed on the equipment under the label (Pic.2). The label is sewed to the equipment. Dimensions of the square label are:60×60мм. Image dimension is: 50x50 мм. External view and label dimensions are given on pic.2 and 3. A latent image on the label can be read by authentication detector on basis of film-type polaroid, what gives possibility to customers to hold initial control when buying equipment.

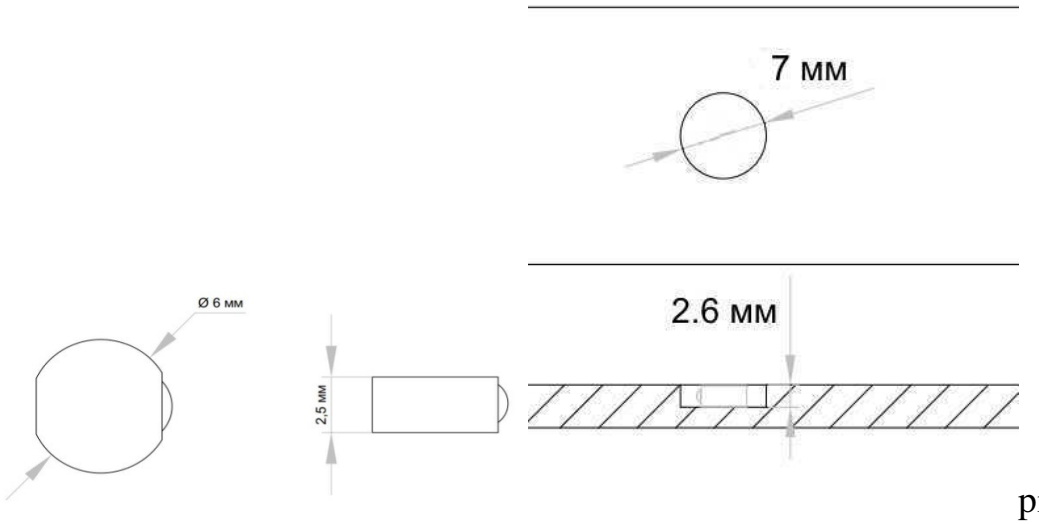


Pic.2



Pic.3

2.Round RFID (Pic.4) tag is integrated into epee and foil. Tag dimensions: 6 mm in diameter, 2,5 thick. It is placed in a round shape deepening at a distance of 10 mm from epee and foil guard. The deepening size: 7 mm in diameter, 2,6 mm depth.



pic.4.