

Therefore, in order to constantly maintain a high moral and ethical level of employees, and thereby decent service for persons crossing the customs border, it is necessary to:

- develop and improve the legal regulation of ethical aspects of activities in customs authorities;
- consider the possibility of creating a state body that would be responsible for the moral training of employees before they enter the service, as well as in the process of its implementation;
- incorporate ethics into day-to-day management in the customs administration;
- carry out more active and purposeful educational work with officials, develop new methods and directions of its organization and realization.

Thus, the ethical side of the activities of customs officials, like other aspects of activities, is legally regulated, and clearly builds the boundaries of the moral responsibility of customs officers in relation to all entities with which they have to interact, thereby increasing the image and creating confidence in the eyes of the public. Customs officials need to constantly assess their actions for compliance with their permissible standards of morality and ethics, as well as analyze the situation from a moral point of view. Honesty, fairness, integrity should become one of the main characteristics of the moral appearance of a Customs official.

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**«Technical means of detecting banknote security elements»**

*Research Field:*

*Modern technical means as a basis of the effective border management*

In the modern realities of the intensification of international economic relations, the movement of funds across the customs border is constantly increasing. To ensure the national security of the state, in particular economic one's, in the field of combating the illegal movement of counterfeit currency across the customs border, the diagnostics of banknotes is becoming increasingly important. The relevance of this problem is that reliable control of the authenticity of the currency is impossible without the use of constantly improving special technical means, as well as developing methods for counterfeiting banknotes. Otherwise, banknote diagnostics would be less effective.

Nowadays, in order to prevent counterfeiting and simplify the detection of counterfeits, banknotes are characterized by a high level of protective properties. This factor can be achieved by introducing a combination of security elements into them as a result of using special technological processes in the manufacture of banknotes, a combination of printing methods, as well as the use of special materials. There are three types of protection: technological; printing; physical and chemical.

Technological protection is a set of features that are visually detected and introduced into individual details of banknotes through the use of special production processes. These features are: special types of paper or polymer substrates, watermarks, paper composition, security threads and fibers, microperforation, holograms, etc.

Printing protection is expressed in the use of various methods and methods of printing, the combination of which, in combination with other types of protection, minimizes the possibility of forgery and facilitates its detection. In modern banknotes, printing protection is the leader in terms of the number of security elements used. The main ones can be called: printing methods (letterpress, planographic, intaglio printing and their varieties - iris peal, Orel printing, metallographic, etc.), a set of graphic elements (guilloche rosettes, ornaments), background grids, microprinting, combined images, optical effects.

The third, no less important and used type of protection, namely physical and chemical, is based on the use of chemicals in the composition of materials, the presence of which is determined by special methods. Phosphors, infrared, magnetic materials and paints that give a metameric effect are usually used as physical and chemical protection for banknotes.

To control the availability of appropriate security elements, customs officers use various technical means of customs control. According to the principle of operation, versatility and quality of verification, devices for diagnosing the authenticity of banknotes can be conditionally divided into three groups: non-automated, automated, expert complexes<sup>1</sup>.

The group of non-automated devices should include hand-held detectors designed to check any currency for certain security elements. The peculiarity is that the decision on authenticity in this case is made by the person conducting the control, therefore the correctness of the decision depends not only on the quality of the technique, but also on the qualifications, experience and knowledge of the specialist.

The detectors mentioned above can be divided into optical (magnifiers, ultraviolet and infrared detectors), magnetic, multifunctional combined devices.

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<sup>1</sup> Гайко, П. Н. Основы технологий и средств таможенного контроля : учебник / Гайко П. Н. , Казуров Б. К. , Казуров М. Б. , Карлин В. С. , Руденок В. П. - Москва : Проспект, 2016. - 464 с.

Combined devices are one's that include a complex of simple devices mentioned earlier (UV lamp, direct transmitted light source, laser illumination, magnifying glasses, magnetic mark sensor, infrared detector).

The most common technical means of authentication are magnifiers. This is due to the presence of predominantly elements of printing protection. In this case, the magnifying glass serves as an auxiliary device, and the decision remains with the inspector.

In this case, it is necessary to take into account the multiplicity of the optical device, since often a detailed study is necessary to accurately determine the correspondence to the original, which will reveal a fake.

Automated include specialized semi-automatic and automatic detectors. Their advantages are: speed, ease of use, the implementation of counting the number of verified banknotes.

An important role among the devices for detecting falsification is played by expert video complexes (video comparators), which mainly include: sets of specialized cameras for studying various security features; light sources with light filters; monitor; IBM-compatible computer with professional software; video input device. The video complex also provides operational control of the security features of banknotes by visual comparison with genuine samples from the database, allows to switch between control modes, change the scale of the displayed image, draw up professional conclusions with images of the studied and reference fragments of the banknote, correct and ensure the receipt of reliable information in the database<sup>1</sup>.

Summing up the above, it should be noted that a fairly large range of technical means for diagnosing banknotes allows customs officials to intensify and significantly increase the efficiency of control actions performed when moving goods and funds across the customs borders of states.

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### **«Preliminary information. Prospects and problems of development»**

*Research Field:*

*SMART borders for seamless Trade, Travel and Transport.*

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<sup>1</sup> Углубленный контроль документов [Электронный ресурс]. – Режим доступа: [https://regula.by/ru/products/advanced\\_verification/](https://regula.by/ru/products/advanced_verification/). Дата доступа: 21.04.2022