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The Use Of Specific Expertise While Research On Documents Made In The Form Of Plastic Cards

Abstract. The article highlights issues related to the rising circulation of documents made on the basis of plastic cards in Ukraine and the increase in offenses involving their use. Timely application of specific expertise, the necessity of which is determined by the specificity of the objects, is of particular importance in the investigation of offenses characterized by forgery of plastic cards. Supplementing the methodology for plastic card research using specific expertise should be used in combination with possibilities of traditional forensic examination.

The article covers questioned document examination that is most often used in proceedings in which research objects are forged plastic cards. Emphasis is made on the characteristics of plastic cards and their protection against forgery as the main research objects. It is emphasized that means of card security, often referred to as security elements, include the following: graphic record, embossing, barcodes, magnetic stripe coding, chip, and laser recording.

The analysis of forensic examinations conducted during the pre-trial proceedings concerning forged vehicle registration certificates and driver's licenses is provided. The article details peculiarities of forgery production and stresses issues that cannot be solved with the help of traditional forensic examination methods. The application of specific expertise is possible within advisory activities concerning identification of potential violations involving forged plastic cards.

The author has concluded that there is a need to conduct multidisciplinary expert research on plastic cards. This research would determine: whether the card submitted for study has been forged and how the forgery has been executed; whether the card has been produced by the issuing enterprise; and whether the examined card has been made from the same materials and on the same technological equipment as other cards from the same batch, etc.

Diverse methods of committing violations using plastic cards, use of modern technical means by the offenders, and the insufficient informational support of investigators and forensic experts during a pre-trial proceeding lead to low effectiveness in revealing such types of offences.

Keywords: plastic card, document forgery, questioned document examination, multidisciplinary forensic research, vehicle registration certificate, driver's license, security elements of plastic card.

Introduction. Plastic card documents are increasingly subjected to criminal offenses. At present, under the influence of scientific progress, the possibilities for forensic research in general, and its various types in particular, have considerably expanded: the range of research objects and the application of scientifically justified methods and means have vastly

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THE USE OF SPECIFIC EXPERTISE WHILE RESEARCH ON DOCUMENTS MADE IN THE FORM OF PLASTIC CARDS

The article highlights issues related to the rising circulation of documents made on the basis of plastic cards in Ukraine and the increase in offenses involving their use. Timely application of specific expertise, the necessity of which is determined by the specificity of the objects, is of particular importance in the investigation of offenses characterized by forgery of plastic cards. Supplementing the methodology for plastic card research using specific expertise should be used in combination with possibilities of traditional forensic examination.

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Diverse methods of committing violations using plastic cards, use of modern technical means by the offenders, and the insufficient informational support of investigators and forensic experts

grown, contributing to solving the tasks set before forensic experts within investigative and judicial practice.

As of today, unfortunately, there is no perfect methodology for determining forged documents made in the form of plastic cards. However, questioned document examination is widely used in expert practice, and plastic documents are no exception.

In order to study the aforementioned objects, forensic experts have a large arsenal of specialized methods and technical tools that allow them to identify cases of document forgery, and in situations where modifications have been made to authentic documents, to ascertain their original content. The primary methods among these include: visual-microscopic; color separation; contrast enhancement; research using invisible rays of the spectrum, such as ultraviolet and infrared; luminescence; and wet copying, etc.

However, an analysis of the practice of countering criminal offenses involving the use of forged plastic documents suggests that they are complex to study. The forensic support of such crimes evidently lags behind the ingenuity of offenders and, unfortunately, does not always provide a comprehensive set of methods and tools required for expert research on documents made in the form of plastic cards. Therefore, identifying peculiarities of studying plastic documents and characterizing the specific questions that need to be addressed when conducting forensic examination of forged plastic cards is a pressing task in forensic science.

Analysis of Essential Researches and Publications. Methods and characteristics of forged plastic cards have been studied in research papers by V. V. Biriukov, V. V. Kovalenko, T. P. Biriukova, K. M. Kovalov, S. M. Naumenko, M. Yu. Budziievskiyi, A. V. Ishchenko, I. P. Krasiuk, I. M. Osyka, etc. Most of these papers focus on detecting and investigating crimes related to the forgery and fraud of bank payment cards. Whereas other types of documents in the form of plastic cards are largely overlooked by forensic scholars.

The analysis of research papers gives reasons to state that researchers pay insufficient attention to the study of forensic examination of documents made on the basis of plastic cards, which highlights theoretical and practical relevance of this research.

Purpose Formulation. The Article Purpose is to single out specific features and characteristics of forging documents made on the basis of plastic cards and to substantiate the need for improving methods and tools for forensic examination of these documents in order to ensure efficient investigation of crimes related to forgery of plastic cards and to prevent commission of other administrative and property-related violations.

Main Content Presentation. Documents in the form of plastic cards are becoming increasingly popular in Ukraine, gradually replacing traditional paper documents. The ID-card version of the Ukrainian citizen's passport, bank payment cards, vehicle registration documents, certificates of a person's specific status, driver's licenses, etc., are undoubtedly more secure forms of documentation. However, they are also frequently subjected to criminal offenses. The increased demand for forging these items is primarily driven by selfish motives; therefore, the criminal pursuit of mastering modern technologies started with bank cards and continues, despite the constant improvement in the security elements of plastic documents¹²³.

¹ Технічний опис бланка свідоцтва про реєстрацію транспортного засобу: затв. наказом Міністерства внутрішніх справ України від 9 грудня 2004 року № 1528. URL: <http://zakon3.rada.gov.ua/laws/show/z1592-04>

² Про затвердження технічних описів бланків документів, які видаються підрозділами МВС України: наказ МВС України від 5 липня 2011 року № 395. URL: <http://zakon3.rada.gov.ua/laws/show/z0883-11>

³ Про внесення змін до наказу МВС України від 05 липня 2011 року № 395: наказ МВС України від 3 квітня 2014 року № 273. URL: <http://zakon3.rada.gov.ua/laws/show/z0414-14>



Pre-trial investigation of crimes involving forged plastic cards is always accompanied by questioned document examination. All characteristics of the cards (size, content, material, etc.) are subject to research. Particular emphasis is made on their protection against forgeries, as they are the main research subjects. Security measures depend on the type of document represented by the examined card. Security measures, often referred to as security elements, include: graphic records, embossing, barcodes, magnetic stripe coding, chips, and laser recording. Specific security elements and their combinations change over time. The main research method is comparison with a sample.

One of the popular objects of forgery is the vehicle registration certificate, because criminals evade paying taxes by purchasing a fake certificate. In addition, stolen vehicles are mostly legalized on the basis of such forged documents⁴.

In Ukraine, driver's licenses and vehicle registration certificates in the form of plastic cards were introduced in 2005. One of the reasons for introducing plastic documents for vehicles was the widespread forgery of their paper counterparts. However, it can be stated that plastic documents are also frequently forged, and there are challenging issues associated with their expert research.

The vehicle registration certificate is a complex object for research by forensic experts and this is due, first of all, to the number of sample documents in circulation. In total, there are more than 100 of them and each one has distinct security elements and features.

Plastic vehicle registration certificates have general features in accordance with ДСТУ ISO/IEC 7810:2008: elements of ultraviolet protection, microprinting, a protective holographic grid, are laminated with a transparent reflective achromatic coating and high-strength film. The form of the national vehicle registration certificate, produced by PC "Ukraine" and introduced into circulation in 2014, is made of a polymer material – polycarbonate – of ID-1 format in compliance with the requirements of ДСТУ ISO/IEC 7810:2008 Identification cards. Physical characteristics (ISO/IEC 7810:2003, IDT).

Security elements of the vehicle registration certificate include:

1) on the front side: a stylized image of the map of Ukraine made with the use of optically variable ink in the upper right part; microtext; under ultraviolet protection: an image of the Small Coat of Arms of Ukraine;

2) on the reverse side: microtext; under ultraviolet protection: the emblem of the Ministry of Internal Affairs of Ukraine; a designated white space for entering a 1D barcode in the upper left corner; the series and number of the certificate form consisting of three letters and six numbers; details of an enterprise that has produced a certificate form, executed using laser engraving.

Flat offset printing is used for printing background images.

Based on the materials of a criminal proceeding, which concluded with a guilty verdict in May 2021, a criminal group had been identified. Motivated by personal enrichment, this group was involved in producing forged documents, in particular: vehicle registration certificates (made of plastic), driver's licenses (made of plastic), notarial powers of attorney, forensic examinations from Forensic Examination Scientific Research Bureau "Santodor" that were subsequently sold for money. The investigation delved into the methods and places of manufacture, sources of raw materials procurement, specifically polyethylene films with holographic security elements that were used during

during a pre-trial proceeding lead to low effectiveness in revealing such types of offences.

Keywords: plastic card, document forgery, questioned document examination, multidisciplinary forensic research, vehicle registration certificate, driver's license, security elements of plastic card

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L'UTILISATION D'UNE
EXPERTISE SPÉCIFIQUE LORS
DE LA RECHERCHE SUR DES
DOCUMENTS RÉALISÉS SOUS
FORME DE CARTES PLASTIQUES

L'article met en lumière les problèmes liés à l'augmentation de la circulation en Ukraine des documents établis à base de cartes plastiques et à l'augmentation du nombre d'infractions liées à l'utilisation de ces objets. L'application en temps opportun de connaissances particulières, dont la nécessité est déterminée par la spécificité des objets, revêt une grande importance dans les enquêtes sur les infractions caractérisées par la falsification de cartes plastiques. La correction de la méthodologie de recherche sur les cartes plastiques à l'aide de connaissances particulières doit être combinée avec l'usage des opportunités de l'expertise traditionnelles.

L'article examine l'expertise des documents, qui est le plus souvent utilisé dans les procédures dans lesquelles les objets d'enquête sont des cartes plastiques contrefaites. Une attention particulière est portée aux caractéristiques des cartes plastiques et à leur protection contre la contrefaçon, comme objets principaux de recherche. Il est indiqué que les caractéristiques suivantes et leurs combinaisons sont incluses dans les moyens de protection de la carte, appelées conditions requises : enregistrement graphique ; gaufrage ; codes-barres ; codage sur bande magnétique ; ébrécher ; enregistrement laser.

Une analyse des expertises menés dans le cadre des procédures préalables au procès concernant les faux certificats d'immatriculation et permis de conduire est présentée, les particularités de la production de faux sont données et les problèmes qui ne peuvent être résolus par les méthodes traditionnelles de conduite des examens sont séparés. L'application de connaissances particulières est possible dans le cadre d'activités de

⁴ Науменко С. М. Способи підробки свідоцтв про реєстрацію транспортних засобів та проблемні питання їх експертного дослідження. *Криміналістика и судебная экспертиза*. 2013. Вип. 58 (2). С. 294–302. URL: http://nbuv.gov.ua/UJRN/krise_2013_58%282%29_57

conseil sur les modalités possibles de commission d'infractions liées aux cartes plastiques contrefaites.

L'auteur est parvenu à la conclusion de la nécessité de réaliser une expertise approfondie des cartes plastiques, qui répondrait, entre autres, aux questions suivantes : la carte présentée pour la recherche est-elle une fausse et comment la contrefaçon a-t-elle été réalisée ; si la carte a été fabriquée par l'entreprise émettrice ; si la carte prévue pour la recherche est constituée des mêmes matériaux, sur le même équipement technologique, que les cartes du même ordre qu'elle, etc.

La variété des manières de commettre des infractions à l'aide de cartes plastiques, l'utilisation de moyens techniques modernes par les délinquants, le soutien informationnel insuffisant des enquêteurs et des experts judiciaires au cours de la procédure préalable au procès conduisent à une faible efficacité de la divulgation de ce type d'infractions.

Mots-clés : carte plastifiée, falsification d'un document, expertise technique et criminalistique de documents, enquête médico-légale approfondie, certificat d'immatriculation du véhicule, permis de conduire, détails d'une carte plastifiée

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DER EINSATZ SPEZIFISCHER
FACHKENNTNISSE BEI
DER RECHERCHE VON
DOKUMENTEN IN FORM VON
PLASTIKKARTEN

Der Artikel beleuchtet Probleme im Zusammenhang mit der zunehmenden Verbreitung von Dokumenten, die auf der Grundlage von Plastikkarten erstellt wurden, in der Ukraine und der Zunahme der Zahl von

commission of the indicated criminal offense, and ways to find buyers for forged documents⁵.

Members of the criminal organization acted on the basis of previously assigned roles and functions. A particular person was responsible for purchasing raw materials, equipment, and consumables for them, as well as for communication tools in order to communicate with other members of the criminal group and individuals intending to buy forged documents with holographic elements. They acquired Ukrainian citizen passports to facilitate the shipment of forged documents with holographic elements to buyers via the Nova Poshta LLC branches and to receive money at the POST FINANCE LLC branches. The criminals used information and extracts from databases (the automated systems ARMOR and NAIS) of the National Police and the Ministry of Internal Affairs of Ukraine, ordered state license plates, selected the location for forged documents manufacture, posted advertisements on the internet regarding the sale of the aforementioned forged documents, directly took orders for the manufacture of forged documents with holographic elements, manufactured them, and shipped them to clients through the Nova Poshta LLC branches. They received money for making these forged documents at the POST FINANCE LLC branches. Subsequently, money obtained in a criminal way was divided among them equally, taking into account raw materials costs.

As raw materials, they used photo paper, plastic, and lamination film. The technical equipment included an EPSON printer, a handheld desktop laminator, a manual plastic card puncher, a computer with a system unit labeled Green Vision, and a 16 GB flash drive with the inscription D26E568F66, along with (colored) printing inks. They also used laminating film with holographic security elements, notary seals, imprints of Ukraine's national symbols, notarial form blanks, form blanks of forensic examinations from Forensic Examination Scientific Research Bureau "Santodor" and passports of Ukrainian citizens. The place of forged documents manufacture was an apartment in Kyiv. The criminals posted advertisements regarding the sale of the aforementioned forged documents on internet platforms, including sites like OLX, AUTO RIA, etc.

What is more, continuing to act on their shared criminal intent, in January 2017, one of the members of the criminal group established contact with an unidentified individual who had access to the databases (automated systems ARMOR and NAIS) of the National Police and the Ministry of Internal Affairs of Ukraine in order to search for cars and documents and provide extracts from the mentioned databases in exchange for monetary compensation. The latter voluntarily agreed to this proposal.

On April 3, 2018, during a search at the residence of one of the criminals, police officers discovered and seized 2 rolls of polyethylene film with the inscription "MIA of Ukraine" and an image of the Coat of Arms of Ukraine with holographic security elements, a roll of polyethylene film with inscriptions "UKRAINE" and "MIA UKRAINE" featuring the Coat of Arms of Ukraine with holographic security elements, and a roll of polyethylene film with the inscription "MIA" and an image of the Coat of arms of Ukraine with holographic security elements, as well as 2 rolls of polyethylene film with the inscription "UA" with holographic security elements. The source of acquisition for these items has remained unidentified.

According to the expert conclusion No. 28378/18-35/4469/4470/19-35 dated 18.02.2019, the film tape marked by a forensic expert as object No. 1 contains images of differently

⁵ Вирок Голосіївського районного суду м. Києва від 7 травня 2021 року в кримінальній справі № 96764046. URL: <https://youcontrol.com.ua/ru/catalog/court-document/96764046/>



sized emblems of the Ukrainian coat of arms against the backdrop of a vignette and text that are holographic security elements of a combined type created using rainbow hologram technology and dotmatrix. The holographic security elements on the films of these objects match the provided comparative samples. On the film tapes marked by the expert as objects No. 4 and No. 5, the images of the letters "UA" within an oval are synthesized pseudo-holographic security elements that match the comparative samples provided for forensic examination. On the film tapes marked by the forensic expert as objects No. 2, No. 3, and No. 6, the images of the Ukrainian Coat of arms set against the backdrop of a shield, eight stars, and the text "MIA" are holographic security elements of a combined type made using rainbow hologram technology and dotmatrix. The holographic security elements on the films of these objects do not match the comparative samples provided for forensic examination. The security elements on the films of objects No. 2, No. 3, and No. 6, in terms of manufacturing technology and pattern, coincide with samples previously used by the EDAPS Consortium for manufacturing corresponding documents. The film of objects No. 2 and No. 6, featuring the Ukrainian Coat of Arms set against the backdrop of a shield and eight stars and the text "MIA", was used to form security elements on a rectangular-shaped object measuring 5.5x8.5 cm with rounded corners.

Also, two rolls of polyethylene film with the inscription "MIA", confiscated during the search and featuring an image of the State Coat of Arms of Ukraine with holographic security elements, were submitted for research. As stated in expert conclusion No. 17705/17706/18-35 dated 22.10.2018, the images of varying sizes of the Coat of Arms of Ukraine against the backdrop of a vignette and text on the provided tape sections, which are attached to the rolls with Scotch tape, are holographic security elements.

On the 11th of July, 2018, during a search conducted by the police, the following items were discovered and confiscated: six cartridges with polyethylene film featuring a holographic emblem of the coat of arms and the inscription "MIA" (labeled on the packaging "CP 500 TOPPAN"); a polyethylene package containing a cartridge with a holographic emblem of the Ukrainian coat of arms and the inscription "MIA of Ukraine" labeled "GET GROUP MIA UKRAINE VER 2 HOLOGRAPHIC Overkey Retransfer Film"; one cartridge with polyethylene film and the inscription "UA" and a tag "Manufacturer SE Holography, batch 428/6"; a cartridge of polyethylene tape with the "UA" image and a tag "Manufacturer SE Holography, batch 403/5". On two envelopes, there are inscriptions "Kherson..." and "Kamianets-Podilskyi...".

As detailed in the expert conclusion No. 17703/17704/18-35 dated October 22, 2018, the images of various security elements and texts on the aforementioned film tapes are holographic security elements of a combined type created using rainbow hologram technology and dotmatrix and matching the comparative samples provided for research.

From January 2017 to July 11, 2018, the following were forged:

vehicle registration certificates (made of plastic) with holographic elements: 479 pcs;

driver's licenses (made of plastic) with holographic elements: 2505 pcs.

After studying the materials of the aforementioned case, the conclusion seems to be unfavorable. Forged documents in the form of plastic cards might physically show no signs of forgery, and expert researches with the use of classical methods (even modern ones) do not provide grounds for detecting forgeries.

That is, the methodology of expert researches on documents made from plastic does not align with the current sophistication of forgeries.

In order to study the aforementioned objects, forensic technology has a vast arsenal of specialized methods and technical tools that enable the identi-

Straftaten im Zusammenhang mit der Verwendung dieser Gegenstände. Der rechtzeitigen Anwendung spezieller Kenntnisse, deren Erforderlichkeit sich nach der Spezifität der Gegenstände richtet, kommt bei der Aufklärung von Straftaten im Zusammenhang mit der Fälschung von Plastikkarten eine große Bedeutung zu. Die Korrektur der Methodik der Plastikkartenforschung mithilfe von Spezialwissen sollte mit der Nutzung der Möglichkeiten traditioneller Expertise kombiniert werden.

Der Artikel untersucht die technisch-forensische Untersuchung von Dokumenten, die am häufigsten in Verfahren eingesetzt wird, bei denen es sich bei den Untersuchungsgegenständen um gefälschte Plastikkarten handelt. Besonderes Augenmerk wird auf die Eigenschaften von Plastikkarten und deren Fälschungssicherheit als Hauptgegenstand der Studie gelegt. Es wird darauf hingewiesen, dass die folgenden Merkmale und deren Kombinationen zu den Schutzmitteln der Karte gehören, die als Voraussetzungen bezeichnet werden: grafische Aufzeichnung; Prägung; Barcodes; Kodierung auf Magnetband; Chip; Laseraufzeichnung. Es wird eine Analyse der im Vorverfahren durchgeführten Untersuchungen zu gefälschten Fahrzeugscheinen und Führerscheinen vorgestellt, die Besonderheiten bei der Herstellung von Fälschungen aufzeigt und Sachverhalte aufzeigt, die mit herkömmlichen Untersuchungsmethoden nicht gelöst werden können. Im Rahmen der Beratungstätigkeit zu möglichen Straftaten im Zusammenhang mit gefälschten Plastikkarten ist die Anwendung spezieller Kenntnisse möglich.

Der Autor kam zu dem Schluss, dass eine umfassende Expertenstudie zu Plastikkarten erforderlich sei, die unter anderem folgende Fragen beantworten würde: Handelt es sich bei der zur Prüfung vorgelegten Karte um eine Fälschung und wie wurde die Fälschung hergestellt? ob die Karte im ausstellenden Unternehmen hergestellt wurde; ob die für die Forschung bereitgestellte Karte aus den gleichen Materialien, auf der gleichen technologischen Ausrüstung, wie die Karten der gleichen Reihenfolge wie sie usw. besteht.

Die Vielfalt der Arten der Begehung von Straftaten mit Plastikkarten, der Einsatz moderner technischer Mittel durch Straftäter, die unzureichende



Informationsunterstützung von Ermittlern und Gerichtssachverständigen während des Ermittlungsverfahrens führen zu einer geringen Wirksamkeit der Offenlegung dieser Art von Straftaten.

Schlüsselwörter: Plastikkarte, Dokumentenfälschung, technische forensische Untersuchung von Dokumenten, umfassende forensische Untersuchung, Fahrzeugschein, Führerschein, Details zur Plastikkarte.

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WYKORZYSTANIE SPECJALISTYCZNEJ WIEDZY PRZY BADANIU DOKUMENTÓW SPORZĄDZONYCH W FORMIE KART PLASTIKOWYCH

W artykule zwrócono uwagę na kwestie związane ze wzrostem obiegu na Ukrainie dokumentów wystawianych na podstawie kart plastikowych oraz wzrostem liczby przestępstw związanych z posługiwaniem się tymi przedmiotami. W dochodzeniu w sprawie przestępstw polegających na fałszowaniu kart plastikowych ogromne znaczenie ma terminowe wykorzystanie wiedzy specjalistycznej, której konieczność zależy od specyfiki przedmiotów. Korygowanie metodologii badań kart plastikowych przy wykorzystaniu specjalistycznej wiedzy należy połączyć z wykorzystaniem możliwości tradycyjnej wiedzy specjalistycznej.

W artykule poddano analizie kryminalistyczne badanie techniczne dokumentów, które jest najczęściej wykorzystywane w postępowaniach, w których przedmiotem badania są fałszywe karty plastikowe. Szczególną uwagę zwrócono na charakterystykę kart plastikowych i ich zabezpieczenie przed fałszowaniem, jako główny przedmiot badania. Wskazuje się, że w ramach środków ochrony karty, zwanych rekwizytami, mieszczą się następujące cechy i ich kombinacje:

fication of forged documents. In cases where alterations are made to authentic documents, they can help ascertain their original content. The main methods include: visual-microscopic; color separation; contrast enhancement; research in invisible rays of the spectrum: ultraviolet and infrared; luminescence; wet copying method, etc.

Determining the fact of document form forgery comes down to identifying the method of its manufacture, and in some cases (with high-quality forgeries): to comparison with a sample. The following methods are used for forging document forms: photogravure, photopolymer, photomechanical, electrophotographic, and using printers.

There is no reason to expect a decrease in attempts to forge vehicle documents, both in terms of quantity and quality. Forensic experts-practitioners face the lack of auxiliary tools for conducting researches, specifically forensic databases at regional and national levels, which would accumulate information about forged vehicle documents, forgery methods, and photographically illustrate signs of forged documents entering such a database.

It seems advisable to conduct forensic examination of plastic cards as a multidisciplinary study that would combine questioned document examination with computer forensic examination. The purpose of questioned document examination in this case would be to: determine the method of manufacturing or forging documents; identify technical tools used for forgery; reproduce destroyed documents or their parts; study materials from which forged documents have been made. The aim of computer forensic examination is to perform an information analysis on the document provided for research. The information analysis should determine the authenticity of the data (or parts of the data) stored on the card and the methods used to transfer information to replicate it on a forged card. In addition, computer forensic examination should investigate memory elements that are components of a card. Answers to questions regarding potential modification, blocking, or destruction of digital information stored on the card also fall within the competence of this type of forensic examination.

Conclusions

The number and types of criminal offenses involving the use of documents presented as plastic cards are, unfortunately, increasing. The use of technical means by cybercriminals, information databases with various subordination makes these crimes some of the most challenging, requiring high qualifications and awareness from investigators and criminalists. Unsystematic investigations and forensic researches that accompany them result in low efficiency while solving such crimes.

Methods of forensic expert research on documents in the forms of plastic cards should necessarily be united with methods of computer forensic examinations. Thus, the study of plastic cards to determine their authenticity or forgery at a sufficient level is possible only as a multidisciplinary research, that is, using the methods and means of different forensic examination types.

Fundamentals of the forensic examination methodology for documents made in the form of plastic cards involve determining security elements and features, as well as applying a combination of separate research methods. These include visual-microscopic analysis, color separation methods, contrast enhancement, examination of a document under reflected ultraviolet and infrared rays, luminescence analysis, wet copying, etc. The methodology and tools for computer forensic examination of plastic cards, which is an essential component for their forensic analysis, should ensure the extraction of computer data from the electronic carrier of the document





and their comparison with information stored in state databases and other information systems.

A nationwide database of counterfeit plastic cards, maintained by Ukraine's forensic institutions, would significantly enhance the quality and efficiency of investigations into related criminal offenses and aid in their prevention.

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zapis graficzny; tłoczenie; kody kreskowe; kodowanie na taśmie magnetycznej; żeton; zapis laserowy. Przedstawiono analizę badań prowadzonych w ramach postępowań przygotowawczych dotyczących sfalszowanych dowodów rejestracyjnych pojazdów i praw jazdy, podano specyfikę wytwarzania fałszerstw oraz wyodrębniono kwestie, których nie da się rozwiązać tradycyjnymi metodami przeprowadzania badań. Wykorzystanie wiedzy specjalistycznej możliwe jest w ramach działalności doradczącej dotyczącej możliwych sposobów popełnienia przestępstw związanych z podrobieniem kart plastikowych.

Autor doszedł do wniosku o konieczności przeprowadzenia kompleksowej ekspertyzy kart plastikowych, która pozwoliłaby odpowiedzieć m.in. na następujące pytania: czy przedstawiona do badania karta jest podróbką i w jaki sposób została ona wykonana; czy karta została wyprodukowana w przedsiębiorstwie wydającym; czy karta przekazywana do badań jest wykonana z tych samych materiałów, na tym samym sprzęcie technologicznym, co karty tego samego rzędu co ona itp.

Różnorodność sposobów popełniania przestępstw z wykorzystaniem kart plastikowych, stosowanie przez sprawców nowoczesnych środków technicznych, niedostateczne wsparcie informacyjne śledczych i biegłych sądowych w toku postępowań przygotowawczych powoduje niską skuteczność ujawniania tego typu przestępstw.

Słowa kluczowe: karta plastikowa, fałszerstwo dokumentu, badanie kryminalistyczne dokumentów, kompleksowe badanie kryminalistyczne, dowód rejestracyjny pojazdu, prawo jazdy, dane karty plastikowej.

