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# International experience of forensic support for crime investigation

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**Abstract**
In the conditions of scientific and technical progress, updating of legislation and law enforcement practice, technical and forensic support for the investigation of criminal offenses in the activities of investigative and expert units acquires special importance, requiring the complexity of research, including, taking into account the experience of foreign countries, which thanks to innovations in the fight against crime is gradually moving away from traditional (conservative) methods and methods of detecting, collecting and fixing traces of criminal offenses, and the situation in which law enforcement agencies have been working for more than half a century is quite close to the one that has developed today in connection with the armed military aggression against Ukraine. The latest technologies in the investigation of criminal offenses were considered and the ways of implementation of the best foreign practices in the activity of investigative and expert units of Ukraine were proposed. Attention is drawn to the application of artificial intelligence as a systematized set of information technologies, aimed at performing sufficiently complex forensic tasks. The feasibility of using the method of Forensic intelligence in Ukraine as a means of obtaining orienting and evidentiary information, which consists in combining disparate pieces of information (forensic materials) during the investigation of multi-episode (serial) criminal offenses in order to obtain a complete picture of repeated acts, is scientifically argued and establishing connections between places of criminal offenses committed by the same criminal or group of persons based on VideoAnalytics. The work of the "The Next Step' program, which allows you to compare shoe prints from different places of the commission of a criminal offense based on external features based on the geolocation of the scene, is considered. The adoption of foreign experience in the part of involving a forensic expert in the inspection of the scene of the incident with the authorization to conduct such an investigative (search) action in individual cases without the presence of an investigator, and upon completion of which to draw up an inspection protocol or an expert opinion, with further referral to the authorized entity, is substantiated (investigator) in order to reduce the burden on pretrial investigation bodies of Ukraine

**Keywords:**
forensics; technology; special knowledge; investigative (research) action; forensic expert activity; inspection of the scene of the incident; unmanned aerial vehicle; artificial intelligence; forensic intelligence; DNA

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## Introduction

Rapid, complete and impartial pre-trial investigation of criminal offences is impossible without comprehensive and targeted technical and forensic support. The reform of the law enforcement system (separation of expert units from the National Police system) has led to an increase in the workload of the pre-trial investigation bodies of the National Police (the number of registered proceedings increased from 443,700 in 2012 to 1.9 million in 2021) [1; 2] and forensic institutions (for example, in 2021 alone the expert service of the Ministry of Internal Affairs of Ukraine conducted more than 300,000 forensic examinations and 44,000 inspections on forensic records). In such circumstances, effective technical and forensic support of pre-trial investigation bodies and expert units is recognised as one of the main priorities, determining the efficiency and integrity of the investigation of criminal offences.

The theoretical framework of the study was based on the studies conducted by prominent scientists, such as: A.A. Areshonkov [3], O.M. Striltsiv, O.S. Tarasenko [4], S.S. Cherniavskyi [5], Yu.M. Chornous [6], A.M. Al-Samman, T. Al-Hadhrami, A. Al Shami, & F. Alnajjar [7], J. Blaschke [8], P. Gonzalo [9] and others. The contribution of scientists to forensic science is certainly significant, but in the conditions of scientific and technological progress, radical changes in legislation and law enforcement practice, technical and forensic support for the investigation of criminal offences is of particular importance and requires a separate comprehensive study. In this context, it is essential to learn from the experience of international countries that, by applying innovations in anti-crime efforts, are gradually moving away from conventional (conservative) ways and methods of detecting, collecting and recording traces of criminal offences.

The scientific novelty of the results obtained is that the article, based on the study of the practice of law enforcement agencies, considers the relevant issues of technical and forensic support for the investigation of criminal offences in the context of the current state of Ukrainian and international criminal procedure legislation, investigative and expert practice.

*The purpose of the article* is to form a scientifically grounded basis for the technical and forensic support of the investigation of criminal offences in accordance with international investigative and expert practice.

## Materials and Methods

The article applies a systematic approach and various research methods: ***dialectical*** – to characterise the technical and forensic support of the investigation of criminal offences; ***system analysis*** – for a comprehensive generalisation of the latest technologies included in the subject of research, in particular the use of unmanned aerial vehicles (UAVs), forensic intelligence, automatic fingerprint identification system (AFIS), the Next Step programme, etc.; **system-structural** – to determine the content and structure of the article; ***dogmatic*** and ***formal-legal*** methods contributed to the clarification of the conceptual and categorical apparatus; ***comparative law*** – to establish the specifics of the work of Ukrainian forensic institutions, as well as the specifics of the use of technical and forensic research in a number of international countries; ***forecast*** – during the implementation of best international practices, ***structural*** and ***functional*** – to establish the main methods of detecting, removing and fixing traces of a criminal offense during the inspection of the scene of an accident; ***modelling*** – when forming proposals and recommendations for implementing the best international practices in the activities of investigative and expert units, as well as the capabilities of intelligent technologies and the method of forensic intelligence in the investigation of criminal offences; ***statistical*** – when confirming conclusions with statistics, materials of criminal proceedings, Investigative, prosecutor's and judicial practice.

These methods were used at all stages of the study, which include: defining a scientific problem, setting the goal and objectives of the study; detailing the directions for improving the technical and forensic support for conducting an inspection of the scene; providing suggestions for improving the use of intellectual technologies in the investigation of criminal offences; determining the characteristics of the use of criminal intelligence methods in the investigation of criminal offences; outlining promising areas for the development of forensic science in Ukraine and the world.

The empirical basis of the study is systematised data of state statistical reporting on the work of Ukrainian and international law enforcement agencies for 2012-2021; summary data of the study of criminal proceedings, expert opinions (for the period 2014-2021); analytical summaries of the National Police of Ukraine, the Office of the Prosecutor General, a number of international law enforcement agencies (England, Israel, Germany, the United States of America); results of many years of study of investigative and forensic practice.

## Results and Discussion

Countering crime in modern conditions requires advanced, comprehensive research [3], and the activity of the investigator at the initial stage of the pre-trial investigation is a single, interconnected system of investigative (search) actions aimed at identifying, recording, seizing, packaging and investigating traces of a criminal offence, which largely determine the success or "failure" of the next stage of the investigation. As stated in Art. 214 of the Criminal Procedure Code (CPC) of Ukraine: "Investigator, detective, prosecutor shall immediately, but not later than 24 hours after the submission of the application, notification of a criminal offence or after his/her independent discovery from any source of circumstances

that may indicate the commission of a criminal offence, submit the relevant information into the Unified Register of Pre-trial Investigations (URPTI), initiate an investigation and provide the applicant with an extract from the above register within 24 hours from the moment of submission of such information"[1]. Therefore, the use of technical and forensic means after registering the data in the URPTI is objective and the most significant. There are certain patterns in the detection of a wide range of traces of criminal offences, which allow for targeted search and collection of evidence.

According to Art. 237 of the CPC of Ukraine, inspection is an investigative (search) action carried out to detect traces of a criminal offence and other material evidence, clarify the circumstances of a criminal offence, as well as other circumstances relevant to criminal proceedings[2]. One of the most common types o-f inspections (during which the largest amount of trace information is usually collected) is the inspection of the scene. The examination of the scene requires the use of various technical and forensic means and tactical techniques for detection, fixation, seizure, packaging, transportation, storage, expert examination of trace information, etc. For example, in modern conditions, when examining the scene of an incident, it is necessary to use such technical and forensic means to detect and remove traces:

– physical traces – laser scanners, fibrogastroscopy, infrared photography, georadar "OKO", "Grot";

– electronic "digital" traces (tablet Cellebrite UFED Touch 2; MSABXR; hardware "chip-off" for removing information from the memory chips of mobile devices; "Mobile Criminalist"; Magnet AXIOM; Belkasoft Evidence Centre; hardware record blockers – Tableau T35U; Wiebitech Forensic Ultra Dockv 5;

– recording of physical data – unmanned aerial vehicles (UAVs), FARO Laser Scanner Focus3D, Google Earth and others [3].

Nowadays, one of the requirements for such an investigative (search) action is to photograph the entire territory, including aerial views. For such an inspection, it is necessary to use a wide range of unmanned aerial vehicles, the so-called drones (UAVs), different in capabilities and characteristics. They are able to capture videos and images in real time, transfer them to a remote server for storage and further use. UAV is a small controlled aircraft that can be operated remotely [7].

The use of UAVs in the forensic mapping process will not only increase the accuracy of the data collected but will also be a way to improve the presentation of this data more professionally and accurately. Presentation of a three-dimensional image in the courtroom during the trial will allow showing the picture of the scene more accurately, and clearly present all the material evidence recorded at the scene. These steps will bring forensics to a new level.

According to the authors, the use of UAVs in law enforcement and forensics, in particular, can bring it to a new level of development. The compact size, mobility and high resolution of real-time video images means that large areas can be explored in a short period of time. The use of UAVs can minimise the "contamination" of the scene itself with foreign traces, and also map and study a specific place before visiting it. Installation of various sensors and devices, including thermal (infrared) video cameras on the UAV will allow observing what cannot be seen with the naked eye. Invisible thermal radiation is reflected by objects regardless of visibility conditions and time of day.

Thus, exploring the area using thermal video cameras can make it easier for criminologists to find certain objects at the scene, or people in a large or hard-to-reach area.

One of the promising areas of drone use may be forensic anthropology. Currently, the use of drones to search for human remains is still at an early stage of development. The US Department of Justice has allocated a grant to the Forensic Anthropology Center of Texas State University (FACTS) to study the possibility of using drones as tools for the detection and identification of human remains [9]. To search for human remains, they plan to use drones with the following useful devices and modifications: infrared imaging, hyperspectral visualisation, multispectral visualisation, advanced light filters. The ultimate goal of the project is to create standardised procedures for the use of drones to search for human remains so that law enforcement agencies have a quick and relatively easy-to-use solution in such cases [8]. UAV photography also helps identify recent soil disturbances and shifts and even locate some burials. This will be very useful in such cases as the detection of mass graves (for example, today in the conditions of military operations on the territory of Ukraine, the use of UAVs may be relevant in the context of finding human corpses and various unidentified graves, etc.). Aerial photography gives the investigator a different view of the scene and is often more useful than conventional photography from the ground level [10]. Another area of application of UAVs can be not only the detection of fires in the open area but also the conduct of fire-technical expertise and the establishment of the origin of the fire, record, and collection of material evidence [9].

Using the laser scanners mounted on the UAV, it is possible to effectively capture the scene and combine all the data to create a complete picture of it in three-dimensional space (3D), which can be used at any time. Presentation of a three-dimensional image in the courtroom during the trial will allow showing the picture of the scene more accurately and present all the material evidence recorded at the scene more clearly. These steps will bring forensics to a new level.

[1]Criminal Procedure Code of Ukraine. (2012, April). Retrieved from http://zakon3.rada.gov.ua/laws/show/4651-17
[2]*Ibidem,* 2012.

Besides, it is highly relevant to use data stored on digital devices by experts, with its further use as evidence in court [11-13].

Forensic science traditionally involves the detection, collection, analysis, and interpretation of finger marks, toe marks, shoe marks, and deoxyribonucleic acid (DNA) to effectively perform the tasks of criminal proceedings.

For the rational use of forensic data during the pre-trial investigation and the provision of additional intelligence information, the introduction of the Forensic intelligence method has recently been launched in the practical activities of law enforcement agencies. This new direction in criminalistics is based on the processing and use of forensic data (forensic databases, serial methods, forensic data from the scene, etc.), a means of obtaining orientation and evidentiary information that is collected and analysed by forensic units. Its main principles are the use of forensic data to identify the relationship between them (for example, an investigator can link crime A to crime B based on a unique burglary method and further link crime B to crime C based on a similar set of shoe prints). Through the recording and analysis of forensic data, the investigator can get a more holistic view of these crimes, establish the relationship between crimes and link criminals to crimes [14].

One of the first stages of using forensic data for intelligence purposes in the Israeli police was the use of the automatic fingerprint identification system (AFIS) to solve serial criminal offences against property (burglaries) [14]. A correlation was found between unsolved criminal offences committed during the year through the detection of latent fingerprints and palm prints from the same source, prints left at the scenes of criminal offences were linked to more than 20 cases. The data collected on the basis of AFIS identification showed that it was the same person. Based on the data obtained, the behaviour of the perpetrator was analysed and he was detained at the scene of the criminal offence during an attempt to break into the apartment [15].

Also, as the analysis of the practice of the police of the state of Israel shows, most criminals who commit burglaries use gloves and masks to avoid leaving their fingerprints and to avoid being recorded by security cameras. However, in many cases, it is possible to find matching footprints. The footprints can be used to connect not only a specific offender with a specific place of a criminal offence but also, if a series of footprints are found in several places, to connect them with each other. Recognising the importance of applying and using the information obtained during the seizure of footprints, the Israeli police are developing a system for comparing and matching images of footprints obtained during the inspection of the scene between the footprints in the data collection to identify the relationship between the scenes of criminal offences [16]. In this regard, the programme "The Next Step" [16] has been developed and implemented in the work of the expert service of the Israeli police, which allows comparing footprints from different places of criminal offences by external signs (i.e., by the pattern of footprints), focusing on the geolocation of the scene (comparison comes from closer to each other to more distant places) and provides investigators with additional data for the investigation (for example, data on serial crimes, allows detecting the same footprint left at several seemingly unrelated events, even if the footprints are found in different cities or districts), and increases the database of shoe prints from crime scenes. Each new image of a footprint obtained during the inspection of the scene should be entered into this data collection and compared against all available images to identify matches, even in the absence of a specific suspect. When a match is detected, a forensic specialist will conduct a preliminary analysis of the data, such as the place and time of the criminal offence, and the method of commission, after which the processed initial data is transferred to the intelligence department for further processing and analysis [16].

For effective identification of a criminal using genetic information, it is necessary to create unified national databases of DNA profiles, including:

– DNA profiles isolated from biological traces and removed from the scene;

– constantly updated operational and investigative database of DNA profiles of detainees, suspects and convicts [17].

At the same time, attention should be paid to the issues of legal regulation of replenishment and use of the database, and protection of human genetic information stored in it. One of the most exemplary and at the same time the largest database of DNA profiles in terms of population is the British NDNAD (UK National Criminal Intelligence DNA Database) [17], which was created in 1995 and contains information about any person detained or arrested by the police on suspicion of committing a crime, before being charged. The samples remained in the database and were not subject to seizure, even if the case against the person was later terminated due to lack of evidence [17]. The database of DNA profiles is also used to identify unidentified corpses found at the scene of crime, disasters or hostilities, as well as to identify the person (if the person's identity is not established), to establish the DNA profile of the victim from biological objects, to link it to the crime scene, or filter out biological traces. The victim, whose DNA profile was not previously in the database, can submit a sample on a voluntary basis or by court order (this DNA profile is not entered into the database, but only checked for matches). It is important that all forensic experts are mandatorily registered in the DNA database to be able to weed out their biological traces and to exclude the mistaken entry of their DNA profiles left at crime scenes into the database. After completing their service, officers have the opportunity to submit a request to remove their DNA profile from the general police database.

The database of DNA profiles is also used to identify unidentified corpses found at the scene of crime, disasters or hostilities, as well as to identify the person (if the person's identity is not established), to establish the DNA profile of the victim from biological objects, to link it to the crime scene, or filter out biological traces. The victim, whose DNA profile was not previously in the database, can submit a sample on a voluntary basis or by court order (this DNA profile is not entered into the database, but only checked for matches). It is important that all forensic experts working in the police units of Israel are mandatorily registered with the DNA database to be able to weed out their biological traces and to exclude the mistaken entry of their DNA profiles left at crime scenes into the database. After completing their service, officers have the opportunity to submit a request to remove their DNA profile from the general police database.

In cases where samples of biological materials were seized during the examination of the scene of a particularly serious crime and a DNA profile was identified, but no match was found in the database, it is possible to conduct a so-called "family" search: the database searches for sequences of DNA fragments that repeat (short tandem repeats – STR), which are statistically as close as possible to the DNA profile from biological samples seized during the examination of the scene, and if such sequences are found, an additional search for the Y chromosome is carried out among them, which may allow narrowing the circle of suspects to close relatives on the paternal line [18]. Such an examination can provide investigators with additional intelligence and narrow down the circle of suspects.

The study of the practice of pre-trial investigation bodies of Ukraine showed that investigators rarely use technical and forensic means, relying on the help of specialists. Such a subject of pre-trial investigation is entrusted with almost all the responsibilities for the use of technical and forensic means and methods, which is due to the lack of practical skills of 71% of investigators in technical and forensic means during the ISA [3]. Here, it would be advisable to adopt the experience of the Israeli police, where, firstly, the investigator or investigative team does not immediately respond to any reports of a criminal nature (patrol police officers are sent first), and secondly, to interact with the investigative authorities and assist in the investigation of criminal offences, in particular at the scene, an expert forensic unit was established, which is part of the investigative department[1]. Direct interaction between the investigator and the forensic expert is carried out by involving the latter in the inspection of the scene and granting him the authority to conduct such an ISA in some cases without the presence of the investigator (for example, burglaries), which helps to reduce the workload of investigators. The tasks of the expert include: establishing the circumstances of the incident to detect the offence; identifying the suspect, collecting evidence; detecting, recording and extracting traces of a criminal offence; providing recommendations to the investigator in charge of the case on the transfer of material evidence to the relevant forensic laboratories [18].

One of the main prerequisites of a successful examination of the scene is to preserve the site in its original form until the arrival of a forensic expert. That is, the police officers who arrived first at the scene (usually patrol police officers) must ensure its safety. From the moment the first police officer arrives at the scene and until the professional authorities have completed their examination of the scene and collected evidence (or until otherwise instructed by the person in charge of the investigation), it is essential to ensure that there are as few unauthorised persons at the scene as possible.

Upon completion of the inspection of the scene of a criminal offence, the forensic expert must draw up a report of the inspection or an expert opinion that refutes or confirms the involvement of any person or object of a criminal offence with its subsequent submission to the authorised entity for investigation, and, if necessary, to the court. Thus, they should be familiar with legal acts (Instructions, Decrees, etc.) and have appropriate training to appear and testify in court [19].

## Conclusions

The basis of technical and forensic support is technical and forensic means, which should be divided into: 1) means of detection, inspection and preliminary examination of objects that contain or may contain forensic information (used during the ISA); 2) means of verification of objects according to forensic records; 3) expert analysis (used by experts in the course of forensic examinations).

As part of the application of intelligent technologies in the investigation of criminal offences, it is necessary to pay attention to the use of artificial intelligence as a systematic set of information technologies aimed at performing rather complex forensic tasks (identification of suspects, prediction of deviant behaviour, investigation at the scene of a criminal offence, tracking money flows, protection against fake news, etc.) Such tools are practically relevant in the work of law enforcement agencies.

In international practice, Forensic intelligence is used as a means of obtaining orienting and evidentiary information with the correct intellectual processing of all forensic information (methods, traces, time parameters, video surveillance materials, etc,) by combining its disparate parts during the investigation of multi-episodic (serial) crimes to complete the pattern of repeated acts and establish links between the places committed by the same criminal or group of persons based on

[1]Criminal Identification Division (Forensic Science Division) Instruction – Appointment and Positions, Order No. 02.04.03 dated 15.08.2017. *Israel Police*. Retrieved from https://www.police.gov.il/menifa/01.02.04.03_2.pdf

VideoAnalytics, it is possible to establish the potential circle of suspects three times faster, and to reduce the entire unsolved array by almost half. From this perspective, the implementation of the "The Next Step" programme, which provides investigators with additional data for the investigation and completes the forensic database of shoe prints from crime scenes, is very relevant in the Ukrainian practice of investigating criminal offences.

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# Міжнародний досвід техніко-криміналістичного забезпечення розслідування кримінальних правопорушень

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**Анотація**
В умовах науково-технічного прогресу, оновлення законодавства й правозастосовної практики техніко-криміналістичне забезпечення розслідування кримінальних правопорушень у діяльності слідчих й експертних підрозділів набуває особливого значення, потребуючи комплексного дослідження, зокрема врахування досвіду міжнародних країн, який, завдяки інноваціям у боротьбі зі злочинністю, поступово відходить від традиційних (консервативних) способів і методів виявлення, збору й фіксації слідів кримінальних правопорушень. Водночас обстановка, у якій вже понад півстоліття працюють правоохоронні органи, досить близька до тієї, що склалася сьогодні у зв'язку зі збройною військовою агресією проти України. Розглянуто новітні технології в розслідуванні кримінальних правопорушень і запропоновано шляхи імплементації кращих міжнародних практик у діяльність слідчих та експертних підрозділів України. Акцентовано на застосуванні штучного інтелекту як систематизованої сукупності інформаційних технологій, спрямованої на виконання достатньо складних криміналістичних задач. Науково аргументовано доцільність застосування методу криміналістичної розвідки (Forensic intelligence) в Україні як засобу отримання орієнтувальної та доказової інформації, що полягає в об'єднанні розрізнених частин інформації (криміналістичних матеріалів) під час розслідування багатоепізодних (серійних) кримінальних правопорушень з метою отримання повної картини повторюваних діянь і встановлення зв'язків між місцями кримінальних правопорушень, учинених одним і тим самим злочинцем чи групою осіб на підставі Video Analytics. Розглянуто роботу програми «The Next Step», яка дозволяє порівнювати сліди взуття з різних місць учинення кримінального правопорушення за зовнішніми ознаками орієнтуючись на геолокацію місця події. Обґрунтовано переймання міжнародного досвіду щодо залучення експерта-криміналіста до огляду місця події з наданням повноважень проводити таку слідчу (розшукову) дію в окремих випадках без присутності слідчого та складання по завершенню протоколу огляду або експертного висновку з подальшим направленням до уповноваженого суб'єкта (слідчого) з метою зниження навантаження на органи досудового розслідування України

**Ключові слова:**
криміналістика; техніка; спеціальні знання; слідча (розшукова) дія; судово-експертна діяльність; огляд місця події; безпілотний літальний апарат; штучний інтелект; криміналістична розвідка; ДНК

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# Economic intelligence and counter-intelligence in ensuring national economic interests: theoretical and applied aspect

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**Abstract**
The realities of today testify to the urgency of the development of modern theories of intelligence and counterintelligence activities, in particular in the aspect of ensuring national economic interests. The above confirms the relevance of studying the theoretical and applied principles of economic intelligence and counterintelligence. In this regard, the purpose of the article is to analyze the role of economic intelligence and counterintelligence in ensuring national economic interests through the prism of the theoretical and legal aspect. To achieve the goal, a system of general scientific and special research methods was used, in particular, dialectical, system-structural, and system analysis methods. The study for the first time formulated the definition of the concept of economic intelligence with a view to a macro-level activity approach – this type of it can not only contain the collection of information from open sources, but also be implemented by creating an agent network, corrupting officials or representatives of top management, stealing technological documentation, using false companies, cyber-attack organizations. The results of the research made it possible to distinguish the functioning models of economic intelligence: systematic, purposeful acquisition of information of a strategic nature; ensuring national economic interests through constant monitoring of strategic sectors of the economy of individual countries; conducting active influence measures by national special services. The conclusions presented in the article can be useful for security sector practitioners

**Keywords:**
espionage; economy; intelligence activities; special services; information; intelligence risks

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## Introduction

Over the past two decades, the economy has pushed aside the political factor in international relations and has become the dominant factor in the struggle for global leadership among states, which has forced world leaders to radically rethink the main priorities of national security. Obtaining information on economic growth, the status of critical infrastructure facilities of individual countries, the introduction of the latest technologies, and the implementation of large investment projects remains an extremely important component of the activities of most national intelligence services. The competitiveness of national economies in today's global markets determines the ultimate dilemma of choosing between national progress and security, or poverty and instability. National governments are under increasing pressure to meet the growing needs of the population of their countries and therefore are forced to maintain the competitiveness of the state by any available means, among which one of the most important is the use of special services. Given this, the issues related both to the need to develop the capacity of the national economic intelligence system and to the development of qualitatively new approaches to counterintelligence protection of the national economic potential of the country are becoming more urgent.

Today, most leading countries have already created powerful, clearly structured systems of economic intelligence, the main elements of which are: separate state institutions (special services, diplomatic missions, foreign trade agencies, etc.); transnational corporations; enterprises of various forms of ownership, scientists and experts. There are a number of differences in the formation of national economic intelligence systems based on different traditions, cultures, structures and potentials of national economies. However, the main purpose of the functioning of all economic intelligence and counterintelligence structures is information and analytical support for making important decisions in securing national economic interests. It is also necessary to underline the importance of research projects primarily: the study of market competition, problems of limited natural resources and the development of strategic sectors of the economy.

Recently, the number of scientific publications devoted to various aspects of the development of economic intelligence has increased dramatically, and therefore it would be quite logical to expect an increase in the number of research projects and significant progress in the development of the theory and practice of counterintelligence activities in the economic sphere. This would be fully consistent with the new challenges and threats caused by the active participation of special services in obtaining various economic information. However, as the results of the analysis showed, this did not happen, which can be explained not only by a sufficiently high degree of secrecy of developments but also by the extreme complexity of the problem due to its multi-vector and specificity.

Y.V. Harust & V.I. Melnyk [1], studying the work of law enforcement agencies in the protection of economic security, noted that "one of the priority tasks of any country aimed at its own sustainable and dynamic development and establishment of favourable conditions for the existence of an acceptable social and material status of its population remains the effective provision of economic security of the state. Successful implementation of this task requires the adoption of an appropriate range of organisational, legal, economic and a number of other state-legalised measures. One of such measures remains an effective and systematic counteraction to existing and latent destructive factors that negatively affect the normal course of economic processes".

In her study on economic and military intelligence, Yu.E. Muravska [2] emphasises, namely: "Currently, as a result of globalisation and computerisation, organisations and enterprises are required to apply in practice a broad and multidimensional analysis of competitors' activities at local, regional and global levels. It is no coincidence that such concepts as "strategic intelligence" or "economic intelligence" have become commonplace both in the theory and practice of the functioning of economic entities. Thus, the needs of the market determined creation of numerous economic intelligence agencies that meet the complex information demands of clients. According to the author, sources of market intelligence should be sought in the military. Many of the tools and methods of intelligence used in the military sphere were implemented in civilian economic intelligence services".

H. Tsyrfa perspective [3] on information security is also worth attention, namely: "The rapid spread of telecommunication networks, electronic resources and electronic delivery of information require the state to develop a strategy for information security, which should include the goal, objectives and a set of basic measures for its practical implementation, that is, a new policy that will effectively protect all areas of the state's economic policy with information support".

The key issue in the study of the theoretical foundations of counterintelligence activity is that scientists constantly have to address the dilemma of "American" and "European" approaches to understanding the basic concept. Thus, in the process of searching for a new paradigm of counterintelligence activity, scientists of the European community in most cases are forced to use the publications of American researchers as an empirical basis, since they are the most numerous and publicly available today. At the same time, there are growing differences between the American and European perspectives of the theory of counterintelligence, and therefore recent scientific studies suggest the need to reconsider the European concept of counterintelligence, which has

long been based on the American approach. Equally important is the development on this basis of theoretical foundations and features of counterintelligence activities in the economic sphere as part of countering economic intelligence.

Given the above, the purpose of the article is to substantiate the theoretical and methodological basis for establishing a paradigm of protecting national economic interests on the basis of modern theories of intelligence and counterintelligence activities and to determine the basic models of economic intelligence. To achieve this goal, the following tasks have been set:

– to identify the defining characteristics of the evolution of theoretical provisions explaining the essence of economic intelligence and counterintelligence;

– to generalise theoretical models and outline patterns of intelligence and counterintelligence activities;

– to systematise and generalise methodological principles of intelligence and counterintelligence research as a function of protecting national economic interests;

– to identify and determine the content of algorithms for building economic intelligence models.

## Materials and Methods

The key component of the methodological toolkit was the dialectical method, which made it possible to highlight the genesis and interconnection of theoretical approaches to the interpretation of the concepts of economic intelligence and counterintelligence, the theoretical and methodological foundations of their research as a function of ensuring national economic interests, and to establish algorithms for building models of economic intelligence, the main of which include: obtaining information; ensuring national economic interests; active measures of influence by special services. This method has established the interrelation and contradiction of trends in the development of intelligence and counterintelligence theory at the present stage, on the basis of which it was found that there is a vacuum in the scientific literature since the developed theoretical basis of intelligence does not apply to counterintelligence. The article also addresses the key problem of the theoretical basis of counterintelligence activity – the dilemma of "American" and "European" approaches to understanding the basic concept.

The system-structural method is applied within the framework of substantiation of theoretical models of intelligence and counterintelligence activities, establishment of their regularities, role in the system of protection of economic interests of the state. This method made it possible to examine the activities of the relevant services of France, the United Kingdom, Spain, the People's Republic of China and the United States, etc., on the basis of which the content of the concept of economic intelligence through the prism of a macro-level activity approach was determined: this type of intelligence can involve not only collecting information from open sources, but also through agent networks, by corrupting high-ranking officials, stealing technological documentation, using front companies, organising cyber attacks. Given the active role of the information component in the development of society, it is argued that an important system-forming factor of economic intelligence models is the information itself, which significantly affects the state of political, economic, social and other spheres, and therefore covers all areas of the market economy, allows to determine the interregional strategy of states, to avoid confrontation between the main economic blocs at the international level. The application of the system-structural method makes it possible to determine the algorithms that correspond to modern models of economic intelligence, which allows not only to satisfy national economic interests, neutralise relevant threats but also to make informed decisions in the global economic arena.

The method of system analysis allowed determining the specifics of algorithms for building economic intelligence models, and therefore to determine the best ways to build a system of domestic economic intelligence and counterintelligence in the economic sphere. Besides, this element of the methodological toolkit made it possible to establish a system of theoretical and applied principles of economic intelligence and counterintelligence, which are marked by a dichotomy of essential features: on the one hand, these are important elements of the system of ensuring national economic interests, on the other – key functions of the special services.

Besides, this element of the methodological toolkit made it possible to establish a system of theoretical and applied principles of economic intelligence and counterintelligence, which are characterised by a dichotomy of essential features: on the one hand, these are important elements of the system of ensuring national economic interests, on the other – key functions of the special services.

## Results and Discussion

***1. Theoretical and applied principles of defining economic intelligence and counterintelligence***. Ukrainian scientific community considers the theoretical foundations of economic intelligence research primarily in terms of industrial espionage or the business economics discipline. Thus, O. Kryzhanovska [4], considering economic intelligence as a component of modern business activity, argues that it includes commercial and industrial intelligence. Thus, the term "economic intelligence" refers to a broader concept. The analysis of market reforms in the current context shows the intensification of illegal behaviour, primarily related to intelligence and espionage within the framework of competition.

While researching the trends of industrial espionage, Yu. Muravska [5], substantiates the need for active measures to protect against manifestations of industrial espionage: to determine what information is sensitive

and classify it as such; to conduct a risk assessment to identify vulnerabilities; to establish, analyse and update the security policy at the enterprise and to form appropriate guarantees both procedurally and technologically.

International academic discourse on the stated research topic is based, first of all, on conceptualisation, i.e. on the procedure of theoretical organisation of knowledge, subject to the isolation of an individual problem (while preserving links with related problems). This procedure involves: a) creating a theoretical and methodological model of the research, b) deriving concepts from observations and determining the links between them, c) formulating general statements, d) reflecting possible trends and changes within this research field, e) generating research hypotheses.

Thus, according to M. Taillard [6], economic intelligence data is more accessible than other intelligence information because most of the relevant indicators of a country's development can be taken from open sources. Economic intelligence data is based on information on the volume of sales of goods, specific types of goods and their availability, as well as the distribution and changes in the pricing of certain types of products, etc. By analysing such information, it is possible to determine the amount and types of resources used by another country, and the time frames of their consumption. All this not only allows determining the effectiveness of state economic strategies but also makes it possible to make predictions about the intentions of the leadership of other countries and to develop appropriate response scenarios.

M. Păduraru [7] believes that with the acceleration of globalisation processes and lifting of trade barriers, the task of being more competitive in the global and national markets has become more urgent for most organisations. In this context, the role of economic intelligence is to provide decision makers with relevant endogenous and exogenous data. Powerful multinational corporations were the first to recognise the potential of the latest available data to improve production efficiency. The integration of these mechanisms into national technological development strategies has enabled some countries to achieve and maintain significant competitive advantages. The development of public-private partnerships brings harmony between the interests of private institutions and national interests. Moreover, economic intelligence is an effective mechanism for increasing competitiveness [7].

At the same time, the number of scientific studies of methodological nature in the field of counterintelligence theory remains extremely insufficient. The main explanation for this state of affairs is that most of the relevant publications were authored by current employees of Western European and American intelligence services, who were very cautious about disclosing certain forms and methods of counterintelligence agencies' activities. Today, some of these materials have become more accessible not only due to declassification, but also due to the development of information technology and the recognition of the fact that the principles and structure of counterintelligence activities, and the basic methods of counterintelligence are quite similar around the world, regardless of the type of state or the structure of the relevant agency [8].

In addition, the process of training in higher education institutions of counterintelligence profile, conducted by state security agencies, mostly remains closed to a wide research audience, and therefore its content is little known. However, the above does not apply to private educational institutions that teach their students the basics of supporting certain components of national security, intelligence and counterintelligence activities. Despite the fact that the majority of graduates of such institutions are in no position to use the acquired knowledge in full, and only a tiny part of them are related to special services in the future, the methodological base of these educational institutions is constantly being improved, and therefore, although with certain reservations, can already be used in the process of scientific research [9]. In this context, it is relevant to refer to the judgment of A. Glees [10], who argues that universities should pay more attention to training intelligence and counterintelligence professionals, in particular by introducing relevant materials into curricula. This will not only significantly better the public perception of the problems of intelligence and counterintelligence, but will also introduce greater transparency of their successful and failed practices to the public [10].

Thus, the theoretical and applied foundations of economic intelligence, and especially counterintelligence, on the one hand, as important elements of the system of ensuring national economic interests, and on the other – as key functions of special services, are insufficiently developed. The need for an in-depth study of the outlined issues is also accentuated by the limited research tools. As for the theory of counterintelligence activities, the closest to the true state of affairs seems to be the statement that there is a vacuum in the scientific literature, since "the developed theoretical basis of intelligence does not apply to counterintelligence". This position is based on the analysis of the array of special literature published over the past two decades, among which there were only two thorough studies devoted directly to the theory of counterintelligence activities [11].

***2. Methodological foundations of economic intelligence.*** The term "economic intelligence" was introduced by M. Porter [12] after the publication of his monograph "Competitive Strategy: Techniques for analysing industries and competitors.". The author suggested that this concept should be understood as the activity of collecting and analysing information aimed at increasing the competitiveness of a firm or industry. The term became widespread after the publication of a special thematic report prepared by H. Martre [13] in 1994

for the French government. Based on the report's materials, economic intelligence is a set of coordinated measures to collect, process and disseminate information that is useful for economic entities. One of the significant achievements of the report was the creation of a new state institution – the High Representative for Economic Affairs (in 2016 it was transformed into the Service of Strategic Information and Economic Security – Service de l'information stratégique et sécurité économique, SISSE) [14].

An important methodological caveat to the study of the theoretical foundations of economic intelligence is the need to distinguish between economic intelligence itself and economic espionage [15; 16; 17]. The rapid development of the latest technologies results in many governments realising that the main condition for their competitiveness in the global economy is the need to invest huge capital investments in leading domestic industries, which does not always coincide with the real financial capabilities of the state. Therefore, political decisions often break the line between economic intelligence and economic espionage. For states that can afford significant financial injections for the development of leading sectors of the economy, economic intelligence and avoiding economic espionage are more typical since it can lead to significant negative consequences in relations with strategic partners. However, for some countries, such a strategy seems impossible, and they decide to steal technologies or secretly take possession of important financial and economic information. These countries can run quite legitimate businesses, they are full participants in the international division of labour, but they supplement their own economic growth with the benefits of economic espionage. The benefits of such activities are quite clear and well-established. Thus, illegal possession of completed technological developments makes it possible to produce and sell products without spending resources on their research and introduction to the market. For certain industries, such as pharmaceuticals, biotechnology, computer hardware and software, production of military equipment, the acquisition of production technology, even one high-performance product, can cause huge losses to the developing country.

The American academic community proposes to distinguish between economic intelligence, economic espionage and industrial espionage. Thus, the term "economic intelligence" refers to the acquisition of political or important commercial information of an economic nature, including technological data, financial, commercially sensitive and governmental information, the receipt of which will directly or indirectly contribute to the competitive position of the economy of the recipient country. Most commonly, this category is defined as a way of managing and controlling information that applies to all sectors of the economy, the use of intellectual activity in the formulation of economic decisions [18].

Economic intelligence is an important element of the system of economic security of the state. Most economic intelligence is legally collected from open sources, no covert, coercive or operational methods are used. At the same time, in some cases, economic intelligence is also conducted through the use of illegal methods and this activity is called economic and industrial espionage.

Economic espionage refers to the use or promotion of illegal, secret, coercive or deceptive activities by a foreign government or its representative in order to obtain economic data. Economic espionage may include gathering information, acquiring or stealing a manufactured product by covert means with the intent of using reverse engineering. Foreign intelligence services intending to engage in economic espionage may use any methods of collecting intelligence data. The most commonly used methods are HUMINT and SIGINT. It is a form of involuntary exchange of information, which is used by those weaker in scientific and industrial terms, learning or trying to catch up [19].

Industrial espionage is the illegal or covert collection of intelligence sponsored by an individual or private enterprise to gain a competitive advantage. These actions are aimed at collecting proprietary materials or trade secrets. The term also makes it impossible to legally collect open-source data. Industrial espionage is especially common in the United States and is practised mainly by foreign corporations or aimed at American corporations operating abroad. Often, firms whose main activity is industrial espionage cooperate with national intelligence services or conduct intelligence operations under the auspices of their governments [20].

Research institutions and production complexes of the military-industrial complex are particularly affected by industrial espionage since most countries use economic espionage to improve the military capabilities of their national armed forces, as well as to increase the competitiveness of their weapons. The investments required to maintain military advantages can be measured in billions of dollars, but the desire of individual corporations to make a profit at any cost leads to significant risks to the effectiveness of such investment projects.

The terms "industrial espionage" and "competitive intelligence" should be differentiated. Thus, industrial espionage is mainly considered to obtain illegally confidential information about the activities of competitors, a complex range of measures aimed at obtaining competitive advantages, which leads to huge financial losses [21]. This can be, for example: stealing information that constitutes expertise; bribing an employee of the enterprise who has confidential information; stealing databases and descriptions of technological processes, etc. Such information can be requested not only by large companies but also by government agencies and special services. Also, modern industrial espionage can cause significant damage to the company's activities by

using psychological pressure on employees to destabilise the activities of a competitor company.

The key feature of competitive intelligence is the legal process of collecting, accumulating, storing and analysing disclosed information about the functioning of a particular company to make optimal decisions in the management link, taking measures to increase competitiveness, prevent possible economic risks and increase the value of the company [3].

The purpose of both industrial espionage and competitive intelligence is to obtain information about the activities of competitors. At the same time, these two activities differ in methods and means of obtaining information: the former is illegal, unlike the latter. Industrial espionage involves operational work to collect specific information, while the result of competitive intelligence, among other things, is the formulation of recommendations for management decisions [22].

Thus, the term "economic intelligence" should be understood as a purposeful activity of public and private entities aimed at obtaining information on the financial and economic policy of the state (including its technological aspects), and any other information that will directly or indirectly contribute to the growth of competitive advantages of the donor country in the international global and national markets. The majority of economic intelligence data is formed from information collected from open sources. At the same time, customers of an intelligence product are no less interested in information obtained using secret methods of intelligence activities. This activity may include obtaining information by creating an agent network, corrupting officials or top management representatives, stealing technological documentation, using shell companies, organising cyber attacks, and so on.

***3. Methodological foundations of counterintelligence.*** The substantive characteristic of the concept of counterintelligence in the writings of most researchers on the subject follows from the generic concept of intelligence. To understand counterintelligence, it is proposed to consider the concept of intelligence in several contexts: activities or processes aimed at obtaining information; a set of information obtained as a result of the processing; an organisation whose activities are aimed at obtaining, receiving and processing information (for example, the intelligence community); reports, briefings that are the result of the organisation's activities. The key element in all these definitions is information. Sometimes raw data is called intelligence, but this assertion cannot be considered correct – information is transformed into intelligence only after appropriate analysis and giving it meaningful content in accordance with previously formulated tasks. At the same time, intelligence is divided into four segments according to the following main functions: espionage, surveillance, analysis and research, and covert operations. Espionage and surveillance are aimed at supporting analysis and research. In turn, the combination of these sectors supports covert operations. Hence, it is concluded that counterintelligence is a key element that combines all four parts of intelligence functions [23].

The main difference between the function of collecting and obtaining information in intelligence and research and analytical functions in business or trade is the secrecy factor of certain aspects of this activity [24]. Therefore, secrecy should be the basic characteristic of counterintelligence: "...counterintelligence should be aimed against intelligence, against active hostile intelligence, against enemy spies" [25].

Although intelligence is usually divided into three main categories – operational, tactical and strategic, the taxonomy of counterintelligence in most publications is based on the other two categories – defence and offence. These categories were proposed by intelligence researchers, but this approach seems to be quite successful in forming the essential characteristics of counterintelligence activities. For example, the taxonomy of counterintelligence of the US Marine Corps is as follows: operations; investigations; information acquisition and reporting; analysis, production and dissemination of information products [26].

The analysis of counterintelligence in terms of defensive and offensive categories suggests that the so-called "defensive" counterintelligence combines those activities aimed at deterrence and detection. At the same time, "offensive" counterintelligence, in addition to detection activities, involves misleading and neutralising the enemy. The purpose of detection activities being included in both types of counterintelligence may be the possession of information security tools or active measures aimed at finding persons who violate the legislation on state secrets.

The approach of the American academic community is that there are five main types of counterintelligence in terms of activities in the following areas: national security; military; law enforcement; business counterintelligence; private counterintelligence [27]. It is important to note that these typological areas may overlap, for example, investigating the leak of classified information on the deployment of troops in a foreign country will be of interest to both military intelligence and counterintelligence agencies ensuring national security. Besides this typological overlap in the areas of activity, there may also be a functional overlap between defensive and offensive functions used by intelligence services. For example, the US intelligence community, headed by the Director of National Intelligence, is structured into an alliance of seventeen major intelligence services (the CIA is the leading political intelligence service of the US government independent of other ministries and agencies, the other sixteen members of the community are part of various US federal ministries and agencies). Despite the fact that the alliance is generally focused on intelligence, a number

of agencies have special units that are engaged in counterintelligence activities [28].

Common in the approaches of representatives of American and European scientific schools of counterintelligence theory is the interpretation of counterintelligence as one of the functions of national security. At the same time, this approach is subject to criticism: *"Obviously, the role of counterintelligence has been misunderstood, as for a long time there were no coherent theories of counterintelligence that would satisfy the practice. Therefore, the formation of the corresponding theory was carried out by practitioners who were guided by their own needs, and not by a deep understanding of the principles of constructing theoretical concepts. While there is nothing wrong with practice- and needs-based approach, it makes the practice less effective and therefore less effective."* [29].

Since the researchers had no issues with the availability of secondary information explaining or describing the practice of counterintelligence in the process of studying the empirical basis of counterintelligence activities, these data were taken as the basis for the development of the relevant theory. The relevant information was obtained mainly from literary sources. The next step was to establish an appropriate logical structure (model), which became the basis of the most common theory of counterintelligence activities.

***4. Algorithms for constructing models of economic intelligence.*** Based on the above analysis, it is possible to highlight the features of counterintelligence activities in the economic sphere as a key element of the system of protection of economic interests. According to the results of the analysis, the most successful approach to the organisation and coordination of complex counterintelligence measures of economic nature is demonstrated by the special services of France. Thus, the National Map of Intelligence Risks has been developed and is functioning in the country, containing not only their list but also specific measures to minimise them. All of them are aimed at countering the possible conduct of espionage operations organised by foreign special services or private structures [30]. The project engages all research laboratories in the country, start-ups, and more than 20 thousand organisations and enterprises involved in the operation of the state defence complex. Each ministry develops clearly defined so-called "restricted zones" (fr. Les Zones À Régime Restrictif, ZRR), which must be agreed upon with the General Secretariat for National Defence and Security (SGDSN). Each enterprise or organisation has its own state-appointed curator (usually a representative of special services). Practical preventive measures include: control of access to premises, and regular verification of personnel, visitors and external suppliers carried out by competent special services (DGSE, DGSI, SCRT, DRM, DRSD) [31]. Besides, companies are advised to give preference to French or EU partners, avoid using free cloud storage solutions, not share strategic commercial information, encrypt information transmitted to suppliers, and not use an administrator account to perform daily tasks. It is also recommended to conduct a regular audit of the infrastructure that discloses production processes and constantly monitor compliance with the terms of the contract. In case of any deviations from the secrecy policy or external interference, the company is obliged to inform DGSI and/or DRSD [31].

In addition to the above, an effective measure to counter economic espionage is the use of the relevant European Union Directive by the interested structures [32]. It is significant that the French Criminal Code provides for punishment for economic espionage up to 20 years in prison [33].

Today almost every leading national special service has a significant arsenal of forms and methods of economic intelligence. For example, in 1994, the Parliament of the United Kingdom of Great Britain and Northern Ireland adopted the Intelligence Service Act [34], which granted the Secret Intelligence Service (SIS) quite broad powers to obtain such information, extending it to "all areas relating to the economic well-being of the United Kingdom". In March 1994, the French government obliged its own intelligence services to significantly expand operations to obtain information of an economic nature, for the coordination of which the Committee on Economic Competitiveness and Security was established the following year [20]. Also, in France, a special educational and scientific institution École de Guerre Économique (EGE), which trains doctors of sciences of the relevant profile, is successfully functioning today [35].

The Armed Forces of Spain are directly integrated into the national system of economic intelligence, besides providing full information on the regions where foreign peacekeeping campaigns are conducted with their participation, they also offer the following services: training of private companies' personnel in the basics of information analysis, cybersecurity, information protection. The direct participation of the military in the work of most structures of the Chamber of Commerce and Industry of Spain, and in conducting defence research is common. The question of creating a National Interagency Intelligence School on the basis of the Spanish Armed Forces, one of the activities of which will be targeted training of economic intelligence specialists, is also being considered [36].

For a long period of time, the largest donor of economic intelligence has been the People's Republic of China. This issue is mainly handled by the Ministry of State Security of the People's Republic of China, the Special Department of the General Staff of the People's Liberation Army of China, and the Department of Military Intelligence [37].

The United States of America also pays considerable attention to matters of economic intelligence development. In addition to the CIA, the US National Security Agency is also authorised in this sphere, which has dramatically increased the capabilities of

information acquisition as a result of the introduction of the new ECHELON system, which can intercept millions of electronic messages around the world [38]. At the same time, the USA pays quite serious attention to the threats caused by numerous attempts to collect economic information in the country. It is believed that the acquisition of economic information and data on critical technologies by foreign intelligence services threatens not only the viability of industry but also the national security of the United States as a whole. Therefore, the espionage activities of foreign intelligence services aimed at the economic potential of the state back in 1993 were included (and remain today) as one of the seven most urgent threats to national security, on which the efforts of the FBI counterintelligence units should be focused [39]. Thus, according to this special service, the main efforts of foreign intelligence services and representatives of corporate intelligence were focused on obtaining information related to research and development in the following industries and areas: pharmaceuticals and medicine, computer software, chemical technology, electronic banking, optics, and telecommunications. Efforts also focused on collecting information on corporate negotiating positions, cost and pricing structures, marketing plans, contract bids, customer lists, and new products and services. A particular focus was given to the national laboratories of the US Department of Energy related to the development of modern energy supply technologies [40].

One of the most successful modern models of economic intelligence is considered to be the Japanese one, which, with regard to national differences, has been introduced by some countries, in particular the PRC, South Korea, Malaysia, and Singapore. The key priority is state support for the international expansion of domestic companies. All issues related to Japan's economic intelligence are directly coordinated by the Ministry of International Trade and Industry (MITI) [41].

The system comprises public institutions and private companies and operates in the following strategic rigid vertically constructed dimensions: a global and local approach to markets; trade strategies that are well adapted to the economic and cultural context of each country; long-term economic strategy; accurate and detailed information policies pursued by private companies with a daily reporting system; integration and coordination of economic centres; partial and selective distribution of information based on access levels; corporate training programmes for young professionals aimed at providing and improving specific skills, including the understanding of local culture and language, depending on the companies and their location [42].

The European model is characterised by much less rigidity of vertical links, but the common feature with the Japanese model is the strong coordination and integration of all activities carried out at the state, corporate and individual (including academic) levels. Unlike the United States, in most European countries, government structures play a leading role in coordinating the activities of all participants in the system. As for special services, they perform mainly the most responsible and non-public tasks to obtain important economic information [41].

The analysis shows the relevance of defining the concept of economic intelligence in view of the macro-level activity approach – this type of intelligence can include not only collecting information from open sources but also occur through the creation of an agent network, corruption of officials or representatives of top management, theft of technological documentation, the use of front companies, organisation of cyber attacks (methods of economic intelligence are increasingly converging with economic espionage).

The concept of economic intelligence serves as a generalising category and correlates with other concepts considered as general and partial. The analysis allows the authors to propose the following algorithms for building modern models of economic intelligence:

– an algorithm of systematic, targeted acquisition of strategic information on the economic development of a particular country, which allows the political leadership of the state to reduce uncertainty in decision-making, thereby significantly increasing the economic competitiveness of the country and domestic companies in the global arena;

– an algorithm for protecting national economic interests, which provides for constant monitoring of strategic sectors of the economy of a number of certain countries. Active measures are also expected to be taken to neutralise the threats of negative external financial and economic influences. Equally important is the function of countering transnational organised crime and terrorism, which remains the prerogative of special intelligence services and law enforcement agencies;

– algorithm of active measures of influence by national special services. Their main goal is to enhance the presence of the state and representatives of domestic business in the world markets, including markets of strategic importance to other countries.

## Conclusions

The study allowed reaching a number of conclusions, among which the main ones are the following.

1. Based on the study of the characteristics of the evolution of theoretical provisions that interpret the concept of economic intelligence and counterintelligence, it is found that a characteristic feature of the development of the theoretical foundations of special services, in particular, the theory of counterintelligence in the Western scientific paradigm is its relative conservatism. The relevant methodology has remained almost unchanged for many years, but a significant part of special methods of activity has undergone significant changes due to the accelerated development of advanced technologies. This has given grounds for international and national support for the need to change the current paradigm of intelligence and counterintelligence.

2. The generalisation of theoretical models and outlining the patterns of intelligence and counterintelligence activities has shown the need to change the conceptual boundaries of intelligence and counterintelligence, because theorists and practitioners of special services have realised the urgency of new challenges and threats (especially of a non-standard and hybrid nature) that cannot be detected and prevented through the use of outdated methods. Besides, an additional need to change approaches has arisen due to the greater accessibility of information to the general public, including classified information, as a result of the spread of cyber attacks on the information resources of state institutions and critical infrastructure facilities. The main forms and methods of intelligence and counterintelligence activities began to be actively used by representatives of transnational organised crime and terrorist groups. Since there are no legal, ethical, financial or any other restrictions and boundaries of criminal activity for them, special services must reach a qualitatively new level of efficiency in their activities.

3. The systematisation and generalisation of the methodological foundations of the study of intelligence and counterintelligence as functions of protection of national economic interests made it possible to assert that counterintelligence serves as a key element that combines all aspects of intelligence functions (activities aimed at obtaining information; a set of information obtained as a result of the processing; an organisation whose activities are aimed at obtaining and processing information; the results of the organisation's activities). As of today, Ukraine lacks traditions, structures, mechanisms and tools for economic intelligence and counterintelligence. It is primarily a matter of building a system with coordinated mechanisms for the activities of state institutions and structures, transnational corporations, private companies, local governments, educational institutions and experts. The main functional purpose of this system should be to promote the economic security of Ukraine.

4. The results of the study showed that models of economic intelligence can correspond to three main algorithms: an algorithm for obtaining information; an algorithm for protecting national economic interests; and an algorithm for active measures of influence on the part of special services. The models of economic intelligence proposed in the study can be used in establishing a system of domestic economic intelligence and counterintelligence in the economic sphere. For in Ukraine, the term "economic intelligence" as it is understood by most economically developed countries is rarely applied. Modern models of economic intelligence can correspond to algorithms for developing models of economic intelligence, the main of which include: obtaining information; protecting national economic interests; active measures of influence by special services.

A promising area for further scientific research is the study of the features of the Western system of training specialists in economic intelligence and counterintelligence.

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# Економічна розвідка та контррозвідка в забезпеченні національних економічних інтересів: теоретико-прикладний аспект

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**Анотація**
Реалії сьогодення засвідчують нагальність розвитку сучасних теорій розвідувальної та контррозвідувальної діяльності, зокрема в аспекті забезпечення національних економічних інтересів. Зазначене підтверджує актуальність вивчення теоретико-прикладних засад економічної розвідки та контррозвідки, що означені дихотомією сутнісних ознак: з одного боку, це важливі елементи системи забезпечення національних економічних інтересів, з іншого – ключові функції діяльності спеціальних служб. У зв'язку з цим, метою статті є здійснення аналізу ролі економічної розвідки та контррозвідки в забезпеченні національних економічних інтересів крізь призму теоретико-правового аспекту. Для досягнення поставленої мети використано систему загальнонаукових і спеціальних методів дослідження, зокрема діалектичний, системно-структурний і метод системного аналізу. У дослідженні вперше сформульовано визначення

поняття економічної розвідки з огляду на макрорівневий діяльнісний підхід – цей її вид не лише може містити збирання інформації з відкритих джерел, а й реалізовуватися шляхом створення агентурної мережі, корумпування чиновників чи представників топ-менеджменту, крадіжки технологічної документації, використання підставних фірм, організації кібератак. Виокремлено моделі функціонування економічної розвідки: систематичне, цілеспрямоване здобування інформації стратегічного характеру; забезпечення національних економічних інтересів шляхом постійного моніторингу стратегічних галузей економіки окремих країн; проведення національними спеціальними службами активних заходів впливу. Наведені висновки можуть бути корисними для фахівців-практиків безпекового сектору, зокрема спеціалістів з економічної безпеки, а також слугувати підґрунтям для належного проведення спецслужбами безпекоорієнтованих процедур інвестиційної діяльності, здійснення аналітиками оцінки конкурентоспроможності національних економік на глобальному ринку

**Ключові слова:**
шпигунство; економіка; розвідувальна діяльність; спеціальні служби; інформація; розвідувальні ризики

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# Terrorism as a threat to human rights

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**Abstract**

In this article, the author considers the essence of the terms "human rights" and "terrorism", defines the components of terrorism, establishes the interdependence of the fight against terrorism and ensuring the rights and freedoms of a person and a citizen. Being a form of violence, terrorism is used both by national liberation movements, ethnic and religious groups, and by criminal structures and individual states. The activity of terrorism increases sharply during the crisis. The impact of terrorist acts on the political, legal and social system in such periods not only leads to numerous victims and suffering from the population, violation of human and citizen rights and freedoms, but also has a powerful resonance effect, which can be a threat to national security. Combating terrorism is an important task of the state and society, and requires certain ideological and physical measures that must be scientifically based. Therefore, the topic of the article is important and relevant. The purpose of the article is to study the specifics of the impact of modern terrorism on human rights and to identify ways to prevent this impact. The methodological basis of the article was the dialectical and phenomenological approaches, as well as a system of philosophical-worldview, general scientific and special scientific methods, in particular: formal-logical, formal-dogmatic, systemic, formal-legal, structural-functional. The conclusions state that terrorism is a global problem both for every state and the modern world in general. It poses a significant danger to human rights. If necessary, human rights and freedoms may be restricted in connection with a terrorist or other global threat. Scientific novelty is determined by the set of formulated conclusions and consists in explaining the mechanisms of the negative impact of the ideology and practice of terrorism on the possibility of realizing human and citizen rights, indicating ways to prevent terrorism through the implementation of the principles of the rule of law and, if necessary, by limiting human rights in connection with the terrorist threat

**Keywords:**
ideology; violence; globalization; safety; organization

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## Introduction

Human rights are legally expressed opportunities for the realisation of legitimate interests, which are ensured by the state and society. In the modern world, human rights have changed significantly, they have become an effective element of the political and legal system, a universal value that is recognised and ensured by law and the state. Human rights make it possible to create conditions for the self-realisation of individuals and the progress of entire nations. This is hindered by a number of factors, including terrorism, which has a destabilising impact on the world community. Terrorism is now one of the main dangers that hinder the existence of civilization, pushing it back to the times of barbarism. Today, globalisation not only contributes to the development of previously disadvantaged communities but also entails devastating consequences, forming the social basis of terrorism. There are entire regions in the world where terrorism is becoming the most important factor determining the nature of interethnic and interstate relations. Thus, modern wars, increased Islamic extremism, political, ethnic, and religious conflicts are the consequence of the formation of the modern world order and the manifestation of terrorism. A victim of terrorism can be both an individual and a sovereign state, as witnessed in the Russian-Ukrainian war, when Russian troops are killing civilians in Ukraine, destroying homes and critical infrastructure.

Terrorist activity as a social manifestation means discrimination of an individual, infringement or restriction of his/her rights and freedoms, poses a threat to human security and, ultimately, to society. Terrorism should be considered as a socially dangerous activity, which consists in the deliberate, purposeful use of violence by taking hostages, arson, murder, torture, intimidating the population and authorities, or committing other attacks on the life or health of innocent people or threatening to commit criminal acts to achieve criminal goals. Every civilised state must prevent such activity, spend resources on it, and at the same time restrict certain human rights. After all, countering terrorism is a complex task that involves a system of measures, both ideological and physical, which do not always contribute to the realization of human rights and require finding solutions to prevent this phenomenon. This actualises the theoretical studies of the possibilities of countering terrorism, which essentially prompted the need to address the question of studying the negative impact of terrorism on human rights.

The purpose of the article is to analyse the threats associated with terrorism, to identify methods of eliminating these threats.

The scientific novelty of the article consists in defining the mechanisms of influence of terrorism on human and civil rights and freedoms and specifying ways to neutralise this influence.

## Literature Review

Various aspects of human rights have long attracted the attention of political and legal scholars, scientists from philosophers to lawyers. The complex nature of the problem determines the appeal to various scientific sources, engaging both legal and philosophical, political and sociological literature.

Certain aspects of the theory of human rights were developed by modern Ukraine and foreign scientists in the context of the study of special legal, political science, international legal, historical, moral and ethical, philosophical and other issues. It is not possible to name all of them because such a list would be too long.

The multifaceted links between human rights and terrorism can be traced in many United Nations conventions, which address a number of critical human rights issues in the context of counter-terrorism and describe the relevant human rights principles and standards that must be strictly observed, in particular in the context of counter-terrorism activities [1].

Terrorism as a complex socio-political, legal and scientific-applied phenomenon is studied in the monograph by V.V. Sereda & I.R. Serkevich [2]. Psychological aspects of terrorism and extremism were studied by R. Baron & D. Richardson [3].

The interdependence between poverty, economic inequality, and joining terrorist organisations was investigated by O.G. Shlomo & N. Smadar [4].

Ch. Anyanwu argued that terror is the very cause of the introduction of special restrictions [5].

The authors analysed the substance of terrorism, its consequences in the sphere of economy, politics, negative impact on public and individual legal consciousness. But the mentioned researchers did not focus on the threats and risks that are faced by each individual, their rights, as a result of the activities of terrorists in the globalised world, did not consider the possibility of restricting human rights in relation to the terrorist threat. Theoretical research of these issues is now an urgent need for both legal Science and political and legal practice. Accordingly, such a study is the task of the author of this article.

## Materials and Methods

The methodology of this article is based on the dialectical approach, which examines various aspects of understanding human rights and terrorism, their interpretation in the context of comprehensive relations with other social, including legal phenomena. The dialectical approach provides an opportunity to understand the causes and consequences of the processes that contribute to the spread of terrorism, and to understand the harm of this phenomenon, in particular its negative impact on human rights.

The application of the phenomenological approach made it possible to highlight the theoretical and legal

foundations of human rights in their actual and ideal structure. Due to the ability of the phenomenology of law to focus on the study of, on the one hand, actual law as a social process that takes place within the human living space, on the other hand, potential law as a universal ideal basis of law, this approach was an alternative to sociological and natural law approaches to understanding law and made it possible to synthesise these two ways of studying law. That is why the phenomenological approach is used as a tool for studying the current positive law.

The formal and logical method allowed analysing the content of the concepts of "human rights" and "terrorism", to draw conclusions and determine the solutions to the problems identified during the study. Identification of logical contradictions in the reasoning or structure of a judgment can avoid mistakes during research.

The formal-dogmatic method was used in the formulation of the concepts of "human rights" and "terrorism", a number of other terms. In particular, the following techniques are used: characterisation of the legal content under study, the establishment of the features of legal phenomena, development of concepts and their definitions, classification of legal phenomena, the establishment of their nature in terms of legal constructions and general provisions of legal science, explanation of legal phenomena from the standpoint of legal theories.

The systematic method is applied in the study of the components of human rights. This method expands the boundaries of knowledge and the problems of human rights because they are not the subject of research of any one science. It involves considering the entire set of objective and subjective factors influencing the formation and realisation of human rights and fundamental freedoms, consideration of their historical, theoretical and practical aspects in dialectical unity and interdependence.

The formal legal method was used to define legal terms. In the study of the impact of terrorism on human rights, this method contributed to the understanding of the "dogma" of law, the identification of formal and logical connections, and abstraction from other socio-economic phenomena (economic, ideological, political). This provides an opportunity to learn the process of formation and functioning of law as a holistic phenomenon perceived by society and each individual in particular.

The structural and functional method helped to identify the components of the phenomenon of terrorism, its functions and goals. This method implies a clear designation of the boundaries of the phenomenon under study. This method presents the law as a specific functional system consisting of normative, organisational, instrumental and social structural elements that perform functions related to the satisfaction of human needs and the maintenance of human connections and relations. The following techniques of this method were used: first, structural analysis aimed at identifying the structural elements of the subject of research; second, functional analysis aimed at identifying the functions that the elements of this system perform; third, the complex analysis focused on studying legal phenomena in relation to other phenomena, that is, as a structural element of systems whose activities are aimed at achieving common goals.

The results of the study will contribute to the creation of an ideology of anti-terrorist protection of human and civil rights and freedoms. This is their practical significance.

## Results and Discussion

Human rights can be considered as certain claims to various benefits (material or spiritual), access to which depends on the level of development of society and the state, and on the varying social conditions. The understanding of the nature of human rights, and the possibilities of their realisation, are significantly influenced by various factors and circumstances. A clear distinction should be made between two dominant categories of human rights, namely civil and political rights and economic, social and cultural rights. Restrictions on civil and political rights are unacceptable. For socio-economic rights, it is important to guarantee the necessary level of protection, which states must provide immediately and regardless of potential limitations and resources [6]. Terrorism may be an obstacle to the implementation of these tasks.

The object of influence of modern terrorism is most often the entire society, by terrorising which they seek to persuade the authorities to make a certain decision. The subjects of modern terrorism are usually anonymously depersonalised, that is, they are suicide bombers.

Terrorism is inherent in any stage of social development. Terrorism becomes widespread when the government weakens, ideological and moral values change, and frustration and tension in society increases, which leads to an increase in violence. Terrorism as a form of violence has a wide range and is used by both national liberation movements, religious and ethnic groups, as well as state and criminal structures. The methods and techniques of terrorist actions are constantly changing. While in the past terror was understood as actions against individuals or groups, nowadays terror against entire nations and states is widespread and is carried out by well-organised and technically equipped structures, including state and international ones. Modern terrorism is not only religious in nature, but is also characterised by the absence of a number of ideological and political imperatives for centralised and hierarchical organisational structures and the use of discriminatory violence, characteristic of left-wing and ethnic-nationalist terrorism of the past [7].

Terrorism is not just an activity. It can be considered from two perspectives – internal and external. The external one is represented by terror itself, that is, the practice of terrorist activity, characterised by such signs as violence, intimidation, symbolic representation,

and demonstrativeness. However, terrorism cannot be understood based only on its external manifestations – terrorist acts, which at first glance often seem irrational, meaningless, requires a thorough, substantial analysis of terrorism and its components, one of which is ideology.

Ideology is a powerful message that motivates and encourages ordinary people to take action. Ideology is a dynamic system that develops, created by the interpretation of events by ideologists. Ideology, and not poverty or illiteracy, is the key driver of politically motivated violence. It is the ideology that determines the organisational structure, leadership and motivation of the membership, recruitment and support, and shapes the strategies and tactics adopted by the group. Ideology is used to attract and retain recruits as members, supporters, and sympathisers. Ideology is introduced through its dissemination in the form of information or propaganda using lectures, speeches, statements, letters, etc. [8].

The ideology of terrorism is formed on a worldview that reflects a certain type of mentality and has the following characteristics distorted perception of reality to the point of complete denial; radicalism in views and extremity of the choice of methods of action; fanaticism, obsession with a goal; utopianism and absolute belief in the achievability of the goals; mythological consciousness, perception of the world focused on the threat; dualism, polarization ("us against them"), perception of the "other" as an "enemy"; intolerance towards opponents and dissenters [9].

A theoretical conceptualisation of the nature of modern terrorism is complicated by its typological similarity to other similar social phenomena. The appeal to violence brings terrorism closer to rebellion, uprising. Terrorism can be seen as a form of violence in which fear is the intended consequence. It is this consequence that distinguishes terrorism from other criminal forms of violence. Often, the goal of terrorists is to influence the community, state authorities and governance, or even destroy the social system and the state. The ideology of terrorism is based on extremely radical ideological attitudes that essentially theoretically justify violence and human rights violations. The ideological source of terrorism is extremism. These include not only aggressive actions, violence, but also extremely negative attitudes, hatred, cruelty, approval and support of radical actions and statements, which are a prerequisite for the relevant actions. It is clear that such acts do not contribute to the realisation of human and civil rights and freedoms.

Ensuring human rights in the context of combating terrorism is a key challenge for the international community. To prevent terrorist activities, states are forced to take adequate measures, including restricting certain human rights. No anti-terrorist law adopted in any country of the world will be effective if it does not provide for such restrictions.

The presence of threats forces citizens to pay primary attention to security concerns and accept restrictions on civil liberties. The consequences of internal and external threats depend on the type of regime. Security is not always achieved in a democracy. Democracy requires tolerance for alternative points of view and a basic willingness to trust strangers. People must have confidence their lives will not be in danger even if their group or party loses the election, they must be ready to support different points of view. However, the protection of the rights of others is sometimes put to the test, and the desire for security is a constant and sometimes insurmountable threat to democracy [10]. As practice shows, support for civil liberties and human rights is more active when people are not in danger. However, when there is a real threat, people tend to restrict the rights of both others and their own. This approach to restricting civil liberties, where the community restricts more of the rights of members of a foreign group, can be understood as a punitive approach to restricting human rights. In response to a sense of threat, the community takes away the rights of others as punishment. By restricting civil rights, a person selectively discriminates against groups that do not agree with the culture and norms of the community. Restrictions as a punitive measure – as a way to isolate an alien group – have preventive justifications in their attempts to support community and individual self-esteem. For example, people whose self-esteem was threatened boosted their self-esteem by humiliating a stereotypical member of another group. The effect of supporting threatened civil liberties is different when considering whose rights are restricted. When considering the rights of members of one's own group, the effect of the threat is much less than when considering the rights of members of another group [11].

The world community seeks to reduce the manifestations of terrorism. A list of terrorist organisations – "Foreign Terrorist Organisations" (FTO) has even been compiled for preventive purposes [12]. This list details each terrorist organisation included in the list or sanctioned by two intergovernmental organisations and governments. Recognition of a terrorist is increasingly becoming an important political tool in combating this phenomenon, so the creation of the FTO will be a significant contribution to the study of terrorism and conflict. Currently, the FTO includes 281 terrorist groups that have been officially listed by at least one intergovernmental organisation or state government, as well as 223 other active terrorist groups that have never been listed. Many governments and intergovernmental organisations, including the United Nations (UN) and the European Union (EU), have their own official lists of banned or identified terrorist groups or individuals [13].

The mutual dependence of the participants of social relations is increasing in the globalised world, disagreements are aggravated and the struggle for influence on the world stage, for territories and transport communications, and for the labour force is intensifying.

Contradictions are rising along with the growing needs of humanity and the onset of negative global climate change, which results in a shortage of vital resources. Accordingly, the tension in the world is growing, and the risks of new wars, conflicts and terrorist attacks are increasing [14].

One of the most acute challenges of the globalised world is the dramatic rise in crime rates [15]. Criminogenic consequences of globalisation are manifested in various spheres, in particular in the economic sphere: money laundering, piracy, raider seizures of other people's property, arms trade. In the political sphere: aggressive foreign policy, wars, internal conflicts, threats to use nuclear weapons, etc. In the sociocultural sphere: the marginalisation of the population, and promotion of immoral and parasitic lifestyles. Each country brings its own cultural characteristics to the global environment. Often, deep cultural differences lead to a large number of problems related to contradictions in the value system that affect behaviour. The main criminogenic consequence of globalisation is the globalisation of crime [16].

There are a number of reasons why terrorism has a negative impact on human rights. First of all, it is the establishment of a new world economic order, which combines globalisation and the division of states into those rapidly growing and depressed. In the era of globalisation, discrimination against employees is increasing depending on various factors. All this leads to limitations on the standard of living of the population, and violations of human rights. One of the consequences of globalisation is the growing demand for skilled labour to the detriment of low-skilled workers.

In the era of globalisation, migration is increasing dramatically. Migration has become a defining feature of globalization and a major global concern. Almost all states are involved in migration processes. People migrate to escape war, famine, poverty, and find work, shelter, and safe living conditions. Since the beginning of the Russian-Ukrainian war, millions of Ukrainian citizens have gone abroad, and many of them have nowhere to return. Countries that accept refugees, such as Poland, Germany, Czech Republic encourage migrants to stay and work in these countries. According to the UN Refugee Agency, at the end of last year, the number of internally displaced persons in the world reached 90 million people, which was due to the deterioration of the situation in a number of African countries. Since the beginning of the year, the Russian-Ukrainian war has forced 14 million people to leave their homes: eight million Ukrainians have found refuge in their country, and about six million have left it [17]. Unfortunately, the migration continues.

Migrants usually perform hard labour and receive low wages. Their rights are often violated. Migrants themselves also often violate the laws of the countries where they stay. The consequences of migration often become a source of contradictions and conflicts [18]. Refugees are increasingly seen as a threat to the national security of the country they arrived in, rather than as vulnerable populations. They are often accused of committing terrorist attacks without sufficient evidence [19]. To avoid violence, governments of host countries may impose restrictions on refugee groups that prevent assimilation, integration, or political representation. Assuming that restrictions and concessions are a response to violence can legitimise violence and contribute to future incidents. The scientific literature suggests that if governments view refugee policy as a national security issue rather than a humanitarian one, this justifies people with the same mindset as Breivik, and therefore justifies acts of violence [20].

Accordingly, globalisation gives rise to new, extremely dangerous challenges and threats for individuals, often creating conditions for the violation of their rights. It is proved that "transformations caused by the process of globalisation, occurring in all spheres of human life, make their own adjustments to the understanding of human rights in the modern world" [21].

It should be noted that the cultural proximity of migrants to the population of the country to which they arrived can deter the spread of terrorism. Similarities in social norms, customs or beliefs are likely to generate trust in social interactions between migrants and locals. This, in turn, makes it difficult for terrorist organisations to use transnational population movements to radicalise and engage in terrorist activities [22].

Transnational terrorism may encourage governments to pursue more restrictive migration policies. First, restrictive policies can make terrorism more expensive by discouraging future terrorist activity. Secondly, voters may hold the government responsible for the growing insecurity and economic instability caused by terrorism. More restrictive migration policies can signal political resolve and satisfy public demand for security measures, which reduces the government's chances of electoral defeat [23].

The establishment of a new political order, in which the norms of international law are unable to prevent individual states from imposing on the international community their interpretation of the content of any conflict and solutions to it, also violates human rights.

Now a different world order is being formed. The rule of law must prevail worldwide. Authoritarian regimes have to become outcasts that no one wants to deal with. The level of democracy, not the amount and volume of natural resources, should determine the status of a country in the world [24].

The establishment of a new legal order, in which terrorists and terrorist organisations can easily transform into political refugees, representatives of national liberation separatist and non-traditional religious movements, who are not only not subject to prosecution, but also have the right to receive international assistance, negates human rights.

In the modern world, the Internet provides terrorist organisations with powerful tools for their activities, improving their recruitment capabilities and internal communication. Democracies are responding to terrorist attacks by increasing internet censorship and expanding their ability to restrict the digital dissemination of information. Democracies can be said to respond to internal threats with repressive and controlling behaviour, by using a different set of tools than authoritarian regimes. Democracies usually work within the legal framework of removing digital content. For example, after several deadly terrorist attacks, France significantly tightened the legal requirements for digital content, reaching the point of imposing a state of emergency, which led to a huge number of content restrictions and a general reduction in Internet freedom [25].

The question arises: Are states willing to ignore human rights violations to reap the benefits of international cooperation? Existing research shows that this is often the case: security, diplomatic or commercial benefits can take priority when it comes to human rights violations by partners.

Cooperation of criminal law bodies can be difficult if it undermines the basic values of individual freedoms and human rights, legal justice, and violation of these values exposes the state to internal political resistance and negative reaction of the population. To achieve their goals, terrorists seek to cause significant damage to the most important human values, such as life, freedom, health, property, etc. One of the most common manifestations of terrorist activities related to the violation of human rights is the taking of hostages – random people who have nothing to do with the conflict that led to the terrorist act. The greater the public resonance of terrorist action – hostage-taking, the greater the frightening impact it has on the population and authorities.

It provides for the prosecution and extradition of persons involved in terrorism. However, states more committed to the values of democracy, individual freedoms and human rights are less likely to cooperate for fear of violating them. Extradition, as the most well-known mechanism that plays a crucial role in stopping transnational crime, clearly demonstrates the accuracy of this hypothesis. Extradition is a formal legal process by which persons accused or convicted of a crime are transferred from one state to another for prosecution or punishment. Extradition is based on the principle that, for the benefit of all civilized communities, criminals should not be allowed to escape justice by crossing national borders, and that states should promote punishment for criminal conduct. Countries that respect human rights are more hesitant to cooperate in the field of criminal justice. Accordingly, extradition will apply to a smaller number of persons in view of the human rights risks associated with extradition [26]. While various spheres of public relations are willing to trade respect for human rights for the benefit of cooperation, such a compromise is more difficult in the field of criminal justice. Foreign legal systems may hold different conceptions of such fundamental concepts as due process, fair trial or excessive punishment. The concern is primarily that the extradited person may be subjected to torture or other ill-treatment, such as harsh interrogation techniques, corporal punishment or poor conditions of detention. Thus, international criminal cooperation between legal systems with different values can be a challenge both personally and politically. In this context, a commitment to human rights appears to be an effective constraint on cooperation rather than empty words.

Thus, today terrorism is present in almost every country, it has a destructive impact on human and civil rights and freedoms and the development of society, and threatens national security. It is still impossible to completely eradicate terrorism, as there are contradictions in society that lead to such behaviour. However, it is necessary to counter terrorism to ensure human rights, life, freedom and dignity.

## Conclusions

Thus, terrorism is a global concern that poses a significant threat to human rights, is not only a criminal threat but also a military and political threat. This is a new form of war.

Terrorism is a complex phenomenon that encompasses a variety of extremist ideologies of violence as the theoretical basis of terrorism, terrorist activity, which is the translation of extremist ideology into practice and terrorist organisations as a form of the social organisation of supporters of extremist ideology. Ideology is the fundamental basis on which all terrorist activities are built. Terrorism in the modern world provides concealment of political and economic influence on world processes, and the ideology of the world war against terrorism in times of globalisation creates opportunities for total interference in the affairs of any state.

Terrorism is not an end in itself, but a means to an end. Terrorist groups act not only for national, religious and political purposes but first of all to achieve their own interests, to acquire material values, to gain access to power. Terrorism can be external or internal. External terrorism includes: international terrorism, which is controlled by international terrorist organisations that carry out terrorist acts on the territory of a number of states; external state terrorism, which is implemented by a certain state on the territory of another state; transnational terrorism and global terrorism. Domestic terrorism covers any terrorist acts committed in the perpetrator's own country. The characteristic feature of modern terrorism is the merger of terrorist organisations with state financial and criminal structures. Modern international terrorism is used as an instrument of state policy at the international level.

Such factors as repressions against opposition political parties forced the introduction of innovations contrary to the customs, traditions of the population and

its mentality, and the inability of citizens to legally realise their legitimate interests play a leading role in the intensification of terrorism. The failure to compromise between the individual and the state can lead to unlawful behaviour, despite the loss of civil rights and freedoms. Under such conditions, it is possible to form an ideology that rejects other value systems and justifies terror as a way to change the existing world order.

Rights and freedoms may be restricted due to the terrorist threat. But rights and freedoms can only be restricted in proportion to the threat. If millions of people lose their rights and freedoms to fight terrorism, it will mean that terrorists have achieved their goals.

Ideally, the state should do everything possible to prevent a terrorist act. It must effectively guarantee and ensure the inviolability of the person, his life and health However, modern states are not yet able to prevent all terrorist acts by their security forces. Since terrorism is a by-product of ideological extremism, the government and society must develop an ideological response, an ideology of its own, which will make it more difficult for terrorist groups to recover human and material losses. This will help prevent manifestations of terrorism. The most important directions of the fight against terrorism are: reaching a compromise in society; stopping the financing of terrorist organisations; raising the level of individual and public legal awareness.

Today there is an urgent need to establish an international anti-terrorist coalition. However, often the cooperation of states in countering terrorism and protecting human rights is only proclaimed, and in fact, some states and international organisations limit themselves to expressing their concern about the terrorist activities of some states, which in no way contributes to preventing the global threat and protecting human and civil rights and freedoms.

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# Тероризм як загроза правам людини

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**Анотація**
Автор статті розглядає сутність термінів «права людини» та «тероризм», визначає складові тероризму, встановлює взаємозалежність боротьби з тероризмом та забезпеченням прав і свобод людини та громадянина. Тероризм як форму насилля використовують національно-визвольні рухи, етнічні та релігійні угруповання, кримінальні структури та окремі держави. Активність тероризму різко зростає під час кризи. Вплив терористичних актів на політико-правову та соціальну систему в такий період не лише призводить до численних жертв і страждань населення, порушення прав і свобод людини та громадянина, а й має потужний резонансний ефект, що може бути загрозою національній безпеці. Протидія тероризму – важливе завдання держави та суспільства, потребує певних ідеологічних і фізичних заходів, які мають бути науково обґрунтовані. Отже, тема статті є значущою й актуальною. Метою статті є дослідження специфіки впливу сучасного тероризму на права людини та позначення шляхів запобігання цьому впливу. Методологічну основу статті становлять діалектичний і феноменологічний підходи, а також система філософсько-світоглядних, загальнонаукових і спеціально-наукових методів, зокрема: формально-логічний, формально-догматичний, системний, формально-юридичний, структурно-функціональний. У висновках констатовано, що тероризм є глобальною проблемою як для кожної держави, так і для сучасного світу загалом. Він становить значну небезпеку для прав людини. Водночас права і свободи людини можуть бути обмежені через терористичну або іншу глобальну загрозу. Наукова новизна визначається сукупністю сформульованих висновків і полягає в поясненні механізмів негативного впливу ідеології та практики тероризму на можливості реалізації прав людини та громадянина, позначенні способів запобігання тероризму через реалізацію принципів верховенства права та, за потреби, шляхом обмеження прав людини у зв'язку з терористичною загрозою

**Ключові слова:**
ідеологія; насильство; глобалізація; безпека; організація

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# Modern technologies for technical follow-up of documents

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**Abstract**
The relevance of the study of modern document research technologies is determined by the growing pace of innovative and technical progress, which produces high-tech achievements that are used not only for rational purposes, but also for the purpose of high-quality falsification of documents to achieve illegitimate and selfish goals. The purpose of this article was to study the latest methods of document forgery and existing technologies for their detection with the aim of assessing the level of development of modern expert research in this field. In order to achieve the above-mentioned result, a complex methodological approach was used in the study of this topic, which consists in the consistent application of methods of scientific knowledge, analysis of the acquired knowledge, their systematization and generalization with the aim of building a system model of the modern process of technical documentation research, as well as the application of comparison and evaluation methods in order to identify weaknesses in the use of existing technologies, the method of scientific forecasting of development prospects in this field. As a result of the study, the general theoretical, methodological and procedural provisions governing the document examination process were highlighted, the known and most used methods of falsification of documents were defined, the methodology for establishing the characteristic features of various types of forgeries and the technical means used for their detection were studied, and the available in this field were outlined problems and prospects for overcoming them. The knowledge gained in this way logically contributes to the formation of fundamental information baggage, which should be used in expert work to achieve the most accurate and justified results. The conducted research has a high applied value, as it focuses on the most optimal and effective modern examination technologies in the field of document circulation, highlighting their characteristic features and advantages, emphasizing the growing need to use the latest technological advances in the examination of documents

**Keywords:**
falsification; examination; diagnostics; identification; evaluation of results; innovative progress; software and analytical complex; computer reproduction equipment

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## Introduction

Document management is an integral part of a civilised society. It mediates the rational interaction of social participants. A document is a significant object in a wide variety of manifestations of public relations. Therefore, it is extremely important to regulate the document verification procedure as a means of mediating the occurrence of certain legal consequences. The issue of document forgery began to exist almost simultaneously with the appearance of the document itself. Over time, within the framework of economic and technological development, the system of social relations moved to the highest levels of an organisation. At the same time, the methods of forgery were also modified. Rapid innovative development has led to the emergence of new types and opportunities for document falsification.

Today, the technical expertise of documents is becoming increasingly relevant. This is due to the spread of a wide variety of methods of forgery in document management. The development of computer technologies has contributed to the emergence of information technology fraud, which in the modern realities of social relations in the online mode acquires the status of a global concern. Therefore, it is important to examine the available technologies of document technical examination for forgery. Many scientific and journalistic publications are devoted to the study of modern technologies of technical examination of documents. Fundamental is the study by O.V. Vorobey & A.V. Kofanov [1], devoted to the general provisions and fundamental principles of technical examination of documents.

Quite persistently and meaningfully at the present stage, attention is focused on the need to introduce innovative technologies in the process of document examination. This issue was addressed by N.V. Ghadan [2], who insisted on the objective importance of introducing modern technologies into expert examination to obtain justified and highly accurate results; and O.Yu. Savchuk [3], who was engaged in the study of computer programmes used in handwriting expertise.

Modern research on certain methods of falsification of documents was carried out by scientists H.M. Kutskir [4] (problematic aspects during signature examination); O.I. Lytvytska & O.P. Lytvytskiy [5] (issues of examining the authenticity of photographic images); V.G. Peliushok [6] (problems of detection of technical editing at the present stage); I.V. Hora & I.I. Popovych [7] (certain aspects of technical expertise establishing the statute of limitations for the production of document details). The methodology of expert examination of certain types of documents and their requisites is the subject of the study by L.S. Talyanchuk [8], S. Naumenko, S. Bruhan & O. Kataraga [9].

Document examination technologies were also studied by D. Ellen, S. Day & C. Davies [10] (methodology of scientific examination of documents) [10], K. Martire, B. Growns & D. Navarro [11] (techniques used in the examination of handwriting in written documents), I. Dror, K. Scherr, L. Mohammed, C. McLean, & L. Cunningham [12] (practical aspects of expertise work with the examined documents), L. Mohammed [13] (signature examination), N. Hamasaki, K. Nakamura, N. Nitta, & N. Babaguchi [14] (features of handwritten and technically generated texts, characteristics of font properties of computer software). The current theory of expert examination in this field is generated by the practical experience of conducted examinations Therefore, the theoretical purpose of this study is a systematisation of the practical aspects of the conducted examinations.

The high pace of dynamic technological development determines the imminent need for the use of modern equipment and high-tech advances in the process of determining the authenticity of the document. Sufficient material and methodological support for expert activities is the key to obtaining effective and accurate results in the most optimal time frame.

Examination of a document for its authenticity is now the leading area of world expert research. The European Network of Forensic Science Institutions (ENFSI), which is an international organization that includes leading European expert institutions (73 expert institutions and forensic laboratories from 39 European countries), is actively engaged in cooperation in this area by promoting the exchange of knowledge and experience [15]. ENFSI operates under progressive strategic plans that provide for the continuous strengthening of ties between the members of the organisation, the development of their international activity through cooperation with other research institutions and the expansion of the membership. In its activities, ENFSI is guided by international standards of forensic science.

The strategic plans of the ENFSI provide for improving the quality of expert practice and control over the credibility of examinations. This organisation assists and guides its members in improving their expertise and helps them to obtain international accreditation. It includes the European Academy of Forensic Expertise, which ensures consistent professional development of experts and encourages focus on international standards. The Academy organises seminars, conferences and expert projects [15].

Within the ENFSI there are working groups functioning by types of examinations, which actively accumulate world expert experience and disseminate among member institutions up-to-date information on innovations in the expert field by holding meetings in alternate countries. Among the working groups on the exchange of experience in the technical expertise of documents in ENFSI, there are expert groups in the following areas: *Digital Imaging* (examination of digitised images), *Documents* (technical examination of documents), *Forensic Information Technology* (computer-technical expertise), *Handwriting* (handwriting expertise);

*Forensic Speech and Audio Analysis* (phonoscopic examination) [15]. Transnational exchange is the key to the effective development of the expert domain, focused on the application of the most advanced world technologies.

The purpose of the study is the identification of existing problems in the process of applying modern technologies of document examination through the analysis of ways to detect various forgeries, as well as to outline possible prospects for the development of expert examinations in the overcoming of existing issues.

## Materials and Methods

A significant amount of scientific data, presented in the form of monographs, author's articles, collective scientific works, experimental findings and methods, was subject to the detailed study of the specific features of technological examination of documents at the present stage. This study was mainly theoretical in nature. At the same time, an important stage of the study, which had applied significance, was the identification of the problems existing in the studied area and providing recommendations for its solution. The application of a comprehensive methodology of scientific research contributed to the formation of a meaningful understanding of the general principles of the process of technical examination of documents, types and methods of document forgery, characteristic signs of falsification, ways of detecting them and the tools used for this purpose, available effective technologies aimed at achieving optimal examination results.

The process of technical examination of documents traces the unity and interdependence of theory and practice, when expert knowledge, far from being narrow-profile, serves as the basis for the examination, and the results of the examination become a methodological asset for further practice. This relationship has led to dynamism, consistency and interdisciplinarity as the fundamental principles of applying the methodology of scientific comprehension in this area. The research of the topic of this article is mediated by the application of the methodology of scientific knowledge. The latter is a complex and multi-level process, each of the stages of which is a kind of step in the growing trend of achieving the main objective of the study. The stages of scientific cognition are implemented through the use of certain methodological tools.

The study of modern technologies of technical examination of documents naturally began with the analysis of scientific and journalistic achievements in a given matter. The application of the analysis method helped to form an understanding of the progress in this area. The diagnostic method was used in the processing of existing technologies for detecting falsifications in document control, and the method of morphological analysis contributed to the comprehension of the characteristic features of existing methods of document forgery. The systematic application of these methods has become the key to a deep study of the subject matter. The synthesis method combines the knowledge gained at the previous stage. To consider expertise as a complete process consisting of clearly defined stages, each of which aims to perform certain tasks, the method of scientific systematisation was used. Using the method of generalisation, the application of which was the logical step following the previous two stages of the study, it was possible to consider the process of expert examination in terms of its systematic nature.

The next stage of the research involves the comparison of the obtained data on the existing technologies of technical research of documents to identify the advantages and disadvantages in their application, which is integral to the comprehension of this subject. The next stage of the study used the method of evaluation of the data obtained through the research process to identify the existing issues in this area, their causes, and preconditions.

The final stage involved the application of the method of scientific forecasting. This method became a logical result and manifestation of the scientific novelty of the research because with its help it was possible to identify ways to overcome the existing issues in this area and predict the prospects for its progressive development.

The above methodological tools step by step contributed to the fundamental study of the application of modern technologies in the technical examination of documents. The comprehensiveness of the applied methodological approach made it possible to fully reveal the essence of the study and achieve the set objective.

## Results

***1. General aspects of technical examination of documents.*** In its essence, a document is a material object that carries information about any facts. Actually, the term "document" is of Latin origin: *documentum*, which translates as evidence, testimony [16]. From this perspective, it always has a certain semantic load, which consists in recording facts or events or implies the occurrence of certain significant consequences. Thus, document is an important object of a socially oriented environment and mediates the interaction between the participants of society.

Documents include written papers, graphs, photographs, phonograms, and video materials. They can be official (form and content are fixed by regulations) and unofficial (documents of everyday use: notebooks, diaries, letters). Through documents, subjects of social relations are identified, execute transactions, exercise subjective rights and obligations, that is, acquire a certain status in society. The procedure for concluding such documents is regulated at the legislative level of any legal state. Given the significance of this object in the process of social interaction, the legal aspect of its application is evident, and it in fact generates legally significant consequences. In this respect, the study of the validity of the document, compliance with the procedure of its preparation provided by the regulations is a critical area of technological work.

Technical examination of documents is the process of establishing the authenticity of the object under study by identifying the method by which the document was produced, as well as establishing the original content of the document, the fact of making changes to it, identifying individual structural elements of the document (requisites) [17]. The objects of technical examination of documents are: banknotes and financial circulation documents (bills, shares, checks, excise duties, etc.); postal documents (stamps, envelopes, postcards); travel documents; identity documents; documents on education and work experience; lottery tickets; the material used for the production of the document (paper, ink, printing ribbons): means used to create the document (printing forms, computer and reproduction equipment). Furthermore, as part of the technical examination of the document, various products made of different materials (wood, cardboard, fabric) with traces of the document creation (stamp imprint or dye residue, pressed traces of the applied text) may be examined.

The objects of research are divided into comparative and those that are compared (examined). Comparable are the samples provided by the interested parties for the examination and the samples made during the examination by the expert himself. The objects that are examined are documents that are involved in the procedural case, and documents that relate to the case based on the results of the expert examination [18]. The purpose of the technical examination of the document is to establish its authenticity or forgery. To confirm the authenticity of the object under study, it must have the following essential components (requisites) in its structure: name, date, place of preparation, participants, content, signatures, seals or stamps. The absence of any of the above details entails the impossibility of establishing its authenticity, and therefore invalidity in the legal sense [16]. In addition to the details, the material (base) of the document and various substances (colouring, correcting, binding) are also subject to technical research of the document, as already noted above. A forged document is characterised by the fact that its content or attributes do not match the actual reality. There are two types of forgery: physical, in which changes are made to the content of the document or the form of its preparation is not observed; and intellectual, in which the rules regarding the form and content of the document are observed, but the latter contains deliberately false data [16].

The tasks to be solved by technical examination of documents can be subdivided into diagnostic and identification [1]. The diagnostic task is to identify the fact of the presence of additions or erasures, invisible or faded inscriptions, preliminary technical preparation when making a signature. As a rule, this type of examination does not require the availability of comparison samples and is carried out within one available free sample. Diagnostic examination of documents aims to establish the facts of changes to the document; replacement of document sheets; replacement of photographs in the document; the presence of hidden elements. During diagnostics, it becomes possible to determine the sequence of execution of document details and reproduce the primary text of the document.

The diagnostic task begins with an inspection of the sample. The general condition of the document, type of printing, font features, image quality are subject to visual examination. In this case, magnifying devices (magnifiers) are used. At the diagnostic stage, the properties of the material and paint, the consistency of their use for this type of product are also studied. If during the diagnosis of the sample there is a discrepancy between the method of manufacturing of the object under study (for example, the sample was made using electrophotography) and the corresponding objects of this group (usually the method of metallography was used), then there is a reasonable basis for concluding that the sample is a forgery [5].

Recently, due to the expanding range of printing products containing innovative features (holograms, bar codes, *QR*-codes), it is not enough to have one object of research for certain diagnostic studies, but it is necessary to provide experimental samples for comparison. It concerns the analysis of documents containing special security features (passport, driver's license, diploma, banknote) [1].

Identification tasks of technical examination of documents are aimed at determining who and how exactly created a particular requisite of the document, and what means, tools and materials were used for this purpose. During the identification, the method of preparing the document and the method of making changes to it, the means of preparing the text of the document, the nature of the signature and the seal on the document, and the method of concealing the elements of the document, if any, are established. This type of task requires several experimental samples of the document. For example, to determine the method of applying a seal to a document, it is necessary to provide several samples of documents with different degrees of intensity of its imprinting, applying a seal to a document on different types of surfaces (hard, soft, horizontal, vertical, static, dynamic), applying a seal immediately after filling with ink, throughout the period of use and when the ink is exhausted.

The identification study of the object uses the methods of a separate and comparative study of free and experimental samples in order to identify common and distinctive features, to evaluate each of these features, both individually and in aggregate ( this includes the study of the content of the text and its placement, features of typing, the presence of clichés and defects of the devices with which the text is applied). Technical examination of documents can be roughly classified into the following types: an examination of the document for falsification depending on the method of forgery; restoration of the original content of the document (if it is

lost due to forgery or due to the passage of time); establishment of the method of production of the document and its details; reproduction of the whole document by its parts (examination of torn, burned or chewed documents); study of texts of small volumes; examination of prints of seals and stamps; identification of materials used in the creation of the document; determination of the statute of limitations for the creation of the document.

An important condition for an effective technical analysis of the document is compliance with the rules for providing samples for examination and the rules for handling them. Most often, it is the original documents that are subject to examination. Samples must be provided in sufficient quantities for the examination. If necessary, the document must be supplemented with related items (mechanisms used to produce the object under study, fountain pens, bottles of ink or paint, ampoules of paste used to complete the document). Samples for expert examination must be placed in an envelope, and the signature on this envelope must be made before placing the experimental sample in it. It is unacceptable to bend documents that are subject to examination, to put any marks on them. The objects of an examination must be protected from exposure to moisture and light, high and low temperatures, and when in contact with them using tweezers and rubber gloves [1].

Documents can act as written and physical evidence. In the first case, the document contains certain objective data and serves as a confirmation of a particular fact (documents certifying transactions, acts, and conclusions). In the second case, it is not the content of the document that is of interest, but the very fact of its existence. In this regard, technical research, in addition to the content, is subject to a variety of aspects related to the object of research: material, time and method of preparation, the identity of the performer. Such an examination becomes criminalistic in nature.

***2. Methods and modern technical tools for document examination.*** When conducting a technical examination of documents, a fairly extensive set of methods is used, among which, in addition to highly specialised methods (photographic, microscopic, physical and chemical), general scientific methods (measurement, observation, experiment, inspection, comparison) and formal and logical methods of cognition (induction and deduction, hypothesis and analogy, analysis and synthesis, generalisation) are also used [8]. Currently, technical examination of documents requires the use of effective methods and high-quality means of examination. The most effective methods are naturally considered to be special examination methods, including: physical, chemical, combined physical and chemical methods, as well as methods of visual and microscopic examination, photographic method [8].

A striking example of the use of the physical method in the technical examination of documents is wet copying, which is based on the principle of diffusion, in which substances from the test sample penetrate into a specially prepared moistened medium to simplify the research process (for example, when examining a signature). Physical methods are widely used in the examination of intersecting strokes, detection of additions, washes and mashing, signs of mechanical interference in the sample structure (luminescence, X-ray, spectral methods) [12]. Chemical methods make it possible to determine the composition of the document material and colouring substances. Chemical methods are essential in the analysis of invisible and faded writings. These are chemical droplet reactions, and experiments with reagents. However, this group of methods involves the risk of damage to the test sample. Physico-chemical methods of examination are the most commonly used. An effective example of such symbiosis is the diffusion-copying method of document examination, in which, as a result of contact of the test sample with photographic materials, substances penetrate into the photoemulsion layer, resulting in the so-called hidden image, which remained invisible under normal conditions [8].

The physicochemical method of thin-layer chromatography can determine the brand of ink used to create the document. This method is based on the effect of certain chemicals (solvents) on the base of the paint, resulting in the separation of the constituent parts of the writing material (thus distinguishing between dyes of different types or classes) [12].

Visual examination of the document is carried out by applying a variety of techniques related to the use of light rays. For example, the examination of an object in oblique light involves an increase in the degree of visibility of the content of the sample as a result of the exposure of the beam at an angle up to 90 degrees; and the study in through light reveals signs of replacement of parts of the sample by observing the different intensity of the light beam passed through the document.

The most common is the analysis of the sample in vertical light when the light beam interacts with the sample at an angle of 90 degrees [10]. This technique allows to examine the properties of the sample material and to identify their differences in case of forgery. The method of light filters is widely used to enhance contrast and detect signs of chemical exposure to the sample. The use of infrared and ultraviolet rays allows examining those properties and features of the sample that are invisible to the naked eye.

The microscopic method of study is an opportunity to examine the object in larger scale and focus on details that are not visible during visual inspection. There is optical and electron microscopy. Optical microscopy is used to study the surface structure of the sample material and the printing method. Electron microscopy is a method of studying the sample an order of magnitude higher, as it allows magnifying the image up to two hundred thousand times. It is used to study the features of the morphological structure of substances that make up the sample material and sample props [8].

The photography method is widely applied at the present stage. The photo can be measured (using a ruler) and contrasted (using light filters), photographed in micro-, macro-scales (if necessary, reducing or enlarging the image), or in invisible spectral zones (using ultraviolet or infrared light). During the examination of documents, it is advisable to use a set of existing methods to achieve the most optimal, accurate and qualitative results. The implementation of the above methods is carried out using a variety of technical means (measuring, lighting, reproducing, optical, computer).

Rulers, protractors, callipers, magnifiers, and micrometres are used to visually inspect and determine the size of the sample as a whole and its individual parts. Important in this case is the lighting factor, which is achieved with soffits, lamps (fluorescent and incandescent), spotlights, lanterns, and special devices of ultraviolet radiation and infrared lighting. Darkfield illumination is commonly used at the present stage of the technical examination of documents [8].

Microscopes are essential for the technical examination of documents. Modern microscopes are equipped with video cameras so that the image obtained under the microscope is displayed on the monitor screen. With oblique illumination, by using a microscope it becomes possible to detect signs of damage to the protective film of the document material (curling). The latest technologies allow the simultaneous application of various research methods. An example is a complex television-spectral-luminescent microscope, which makes it possible to study an object in a continuous range of visible light, oblique illumination, and ultraviolet light. Such functional symbiosis allows achieving the scale of sample magnification and its illumination level up to 140 times [8].

Today, a large number of documents are equipped with various security systems (logos, barcodes, holograms), which are applied to the document with special inks. The latter exhibit the property of glowing under UV or infrared rays. During the technical examination of such documents to transform an invisible image into a visible one by means of photography, the hardware and software complex *"Regula"* and the video spectral comparator *"Foster + Freemen"* are widely used, which have advantages in the speed of fixing the result [8]. Also effective in the analysis of documents containing security features is the use of the device "ESED", equipped with optical lenses and different types of lighting. The advantage of such equipment is its light weight, which allows it to be used as a portable device [8].

When studying an object in the invisible spectrum, portable ultraviolet ray source lamps are most often used. The results obtained are recorded using photo and video cameras. Of great interest is the high efficiency of the ultraviolet emitter *"Crime-lite 2"*, which is a symbiosis of the main source of white light for the basic study and seven auxiliary coloured sources of intense radiation for enhanced effect in detecting traces on the test sample [8]. One of the most advanced means of technical examination of documents is Raman spectrometer, which is used to analyse dyes by combining them with light scattering and studying changes in the frequency of newly formed spectral lines [8]. The use of complex installations that combine a microscope, a computer and a printer is quite effective because it provides a simultaneous examination of the sample and recording of the results.

The current stage of technical examination is characterised by complexity, both in the methodology of the experiment and in the means of its implementation. The latest software and analytical complexes are widely used, as they allow to maximise the image as much as required for this particular sample, under different lighting conditions with automatic selection of the most optimal and fixing the detected signs of forgery using high digital quality photographic equipment [5]. Besides, such software systems ensure the existence of a systematised electronic database of expert studies, which is of great practical importance for further expert activities. Modern video systems provide expert reports with graphic images of the examined samples and with highlighting of those aspects, features, and parameters that the expert relied on when drawing up the conclusion. It is important to highlight the innovative development in such areas of expert examination of documents as handwriting analysis. This type of expertise involves the use of mathematical modelling methods and statistical methods. Therefore, the introduction of an automated stage of processing expert data is the key to obtaining accurate and timely results. Currently, when examining handwriting, including when examining texts of small volume (signature), software packages are widely used, which are based on: registering the time limits for the execution of individual fragments of the object of research and comparing the data obtained with the experimental sample; automatic measurement of distances between the points into which the object of examination is conditionally divided, and comparative characteristics of the obtained data for the original and the sample under study; studying the structural and geometric features of samples and their elements (analysis of the resolution density of the dye to determine the pace of writing and the force of pressure) [9]. Today, computer programmes "Cedar-Fox", "Neuro-Script", "Muvalizer", complex software "Globalgraph", which are based on the methods of scanning and graphometry, are used quite effectively in such examinations [3].

The American Programme "Cedar-Fox" analyses individual features of handwriting and signature samples. At the same time, the object of examination is translated into a digitised format, and all identified features are displayed in the form of systematised statistical data. European programmes "Neuro-Script" and "Muvilizer" specialise in the processing of scanned images of the object of examination in spatial and dynamic

parameters, deliver the obtained findings regarding the study of writing pace and pressure on the writing material, and, if necessary, have the function of a visual video presentation of the expert examination. The Polish programmes "Reygraf" and "Kinegraf" are quite effective. The first analyses the correlation between handwriting and pressure by establishing patterns in the length of strokes and their angles. The second programme examines the lines of handwriting and determines the direction of the writing movement [9].

Kyiv Scientific Research Institute of Forensic Expertise, which has been part of the ECFI since May 2017, has developed a computer programme "VESNA", which specialises in identifying the characteristic features of signatures made in non-standard conditions [15; 9]. With this technical means, it becomes possible to provide an expert opinion on the authenticity of the signature and the conditions in which it was written. This invention is a real gem of Ukrainian technological development. This software product should be further upgraded to provide for the examination of not only short texts, but also a full examination of all details of the document. Technical examination of documents naturally relies on the achievements of technological progress and is based on the use of innovative technologies, which allows for achieving highly accurate results.

***3. Methods of document forgery and ways to detect them.*** The most common ways of document forgery is the replacement of elements by erasing, adding, correcting, or etching. Mechanical interference with the content of the document occurs when erasing, as evidenced by the violation of the integrity and thickness of the paper, the remnants of erased marks found during the examination. During the technical examination, the additions are established by the following signs: unevenness of interline and inter-letter spaces, uneven slope of identical characters, different degrees of dye intensity. To detect the fact of correction in the document, the top layer of the document is inspected for damage, the shade and intensity of the text colour is compared. Evidence of etching include the presence of small cracks and various spots on the material, formed as a result of exposure to chemical substance, and changes in the surface characteristics [16]. When detecting the above signs, both conventional optical devices and contrast light filters, chemical counterparts, luminescent methods are used. Significant in this case is the examination of the tool, with the help of which the document text was created, its coating capacity (the extent to which the stroke is covered with paint) in individual traceological manifestations of strokes.

There is also such method of document forgery as washing, which results in the removal of the document text by applying various substances. This means changing the colour of the text to a state invisible to the naked eye. The technical study of such a sample is carried out by using the method of photography (shooting an object in reflected ultraviolet rays) and diffusion-copying method (in which the light sensitivity of the text under study changes due to the penetration of a special photoemulsion into its structure) [1]. Application of the latter is growing in popularity due to the high efficiency of the results obtained. At the same time, new methods of detecting forgery are more often used in the course of expert examination: dry unlit photographic paper or light fingerprint film, which eliminate the danger of damaging the object under study [1]. One of the ways to forge a document is to replace parts of it, such as its pages or parts of the text. Signs of such forgery are detected at the diagnostic stage by identifying violations or inconsistencies in the numbering and material of pages, the presence of remnants of mechanical intervention (pasting), mismatch of font features, lack of stamp on the pasted photo, etc.

There are also such falsification methods as filled and crossed-out texts. In detecting such counterfeiting, electrophoresis and television techniques are frequently applied [1]. The essence of the electrophoresis method is that under the influence of high frequency current particles of various dyes move in different directions, which allows for detecting the presence of foreign substances that are different from the native dye of the text. The method of television installations allows for capturing what is not immediately observable. With this method, it is possible to choose the most optimal angle for the examination and set the radiation intensity. The use of TV cameras in reflected infrared rays is effective in detecting filled or crossed-out writings [1].

Modern methods of technological examination make it possible to recreate the contents of damaged documents, even if they were exposed to high temperatures. Expert practice proves that the content of the document can be reproduced if it was exposed to a temperature not exceeding 250 degrees Celsius [19]. Working with such samples requires care and caution. This involves using sharp-edged tweezers, glass tubes, rubber pears, direct airflow, and friction electrification methods to place the remains of a charred document on a pre-prepared surface [1]. To eliminate brittleness, the surface of such samples is processed with glycerine solution, mineral oils, or water vapour, which gives the sample elasticity. During transportation, pieces of the burned document can also be placed in a glass or on a cotton pillow covered with a thin layer of paper. The text of the burned document is reconstructed by applying photographic methods (illumination in the presence of colour contrast of the text; shooting in the dark with underexposure of the negative when the text is made with a graphite pencil or ballpoint pen; shooting in infrared light, if the text is made with typographic ink or black ink), contrast methods, methods of processing with various solutions (hydrogen peroxide, fluorescents, heated alcohol with ether and gasoline), methods of heat treatment [1].

A separate area of expert examination is the establishment of the original content of the so-called

faded documents, that is, those that have undergone the deterioration process. An important aspect is to identify the signs of natural (when the document is old) or artificial (when the document has been exposed to the factors that caused the fading) deterioration. Characteristic features of such documents are traces of mechanical intervention (bending, damage), discolouration of texts, and changes in the colour and material properties of the document. A variety of methods are used to detect faded texts: taking photographs using light filters when the text is partially faded; the contrast method when the text is highly faded; the developing method, in which the sample is immersed in a developer and then placed on a clean transparent material (e.g. glass); the method of ultraviolet and infrared irradiation; and, depending on the type of materials used in the writing of the text, the method of chemical reagents can be used (for example, alcohol is effective when working with text that has been written with methylene blue dye) [1].

A signature examination is an important part of the technical examination of documents. The signature has a certifying value, so establishing its authenticity is a priority task of the expert. Recently, signature forgery, which involves the use of special techniques, is becoming more and more widespread. Unlike graphic forgery, in which the handwriting is imitated with the preservation of the native properties of the handwriting of the person who forges the signature, in technical forgery the latter is completely excluded, which greatly complicates the process of establishing the fact of forgery. The sign of a technical forgery of a signature is any traces of the methods used to produce the forged signature (different levels of colour density, intermittent strokes, mismatching of colours, etc.)

One of the methods of signature forgery is wet transfer, in which the colouring substance of the real signature with the configuration inherent to the author is transferred to the forged document using a special material, such as PVC film [4]. A sign that an expert can recognise while examining such a document may be the loss of the original colour of this signature and compensation for this aspect by applying new paint over the transferred signature.

A common method of forgery is the use of facsimile (cliché). A sign of its application in the examination is the absence of characteristic grooves on the material, which are left by writing instruments. As a rule, clichés are used for large volumes of documents [4]. Recently, forgery of signatures by means of copying and reproduction equipment has become increasingly widespread. In this case, the photo of the signature is transferred to the forged document. The technical examination of such a sample reveals signs of non-handwritten execution due to the lack of characteristic relief and the possible peeling of paint when bending the document.

The above-mentioned features are established by using a system of expert examination methods. Thus, besides microscopic observation, it is efficient to examine the document under infrared rays, as it becomes possible to detect foreign dye. Optimal at the present stage of technological development is the use of the electron-optical converter method [1]. This device allows for the detection of the presence of a foreign colouring substance that remains transparent in infrared irradiation.

A modern way to forge a signature is to use a plotter, which is essentially an advanced pantograph. The specific feature of this method of forgery is a fairly accurate imitation of a handwritten signature. Creating a signature using a plotter involves scanning the original and transferring it to a graphic editor, in which the scanned sample is then reproduced using the selected graphic tools, after which the forgery is printed with all the configuration features of the original, including the pace of signature application. Identification of signs of forgery in this case is impossible without modern computer technology [4].

The current stage of technical development is highly dynamic. New advanced copying and character-synthesizing devices (e.g., thermal transfer and dye-sublimation printers for high quality printing of graphic images) are introduced on a constant basis. The accessibility of such office equipment causes an increase in the level of falsification of documents: from blanks to banknotes. The process of technical expertise of such objects faces new tasks related to the need to master the features of new equipment and identify the characteristic features of products made with its help.

Today, the examination of seal impressions and stamps is becoming very important. The reasons for frequent falsification, in this case, are due to the certifying feature of this item. Among the techniques of seal forgery are: letterpress, gravure, flat printing, clichés, use of copying equipment, and drawing [16]. During the examination of this element, the symmetry of the arrangement of the signs and the features of the dye are studied, the method of microscopic examination, ultraviolet and infrared rays are used. The complexity of the examination, in this case, is determined by the advent and broad availability of new techniques for the manufacture of seals (stamps), in particular by laser engraving, which is almost impossible to distinguish from the real one. Quite popular at this stage is the use of seals and stamps with a stamp cushion, which serves as reliable protection against drying out of the rubber base of the seal (stamp) and guarantees its permanent readiness for use. At the same time, the use of multi-colour rubber-based stripes can serve as a reliable protection against the forgery of such an element.

The priority direction of technical examination, mainly of criminological orientation, is nowadays the examination of the age of documents. The objects of this examination are most often such details of documents as signatures, seals, handwritten and printed texts. An important condition is the provision of the source document for this examination. Document age expertise solves several tasks: determining the time when each of

the elements available in the document was made and determining the chronology of the creation of these elements. It requires a comprehensive review from the expert, in which, among other things, it is necessary to exclude the potential artificial antiquing of the document.

Key in determining the time of sample creation are chromatographic methods that allow identifying the type of text ink and the degree of solvent evaporation. The experimentally determined solvent is then evaporated in the laboratory, and the observation of this process provides quantitative indicators for calculating the approximate date of ink application. An additional method of examination is the use of a spectrograph, which makes it possible to establish the presence of impurities in the ink, and traces of chemical exposure [7]. Only a harmonious combination of the comprehensive methodological approaches, the special knowledge of the expert and the use of advanced technologies in the process of expert examination of documents can serve as a reliable guarantee of obtaining accurate and correct conclusions about the authenticity of the document.

## Discussion

Modern technical examination of documents is a complex, multifunctional and high-tech process. The accuracy and relevance of the expert opinion depend on a combination of objective and subjective factors (level of expert knowledge, exhaustiveness of methodological support, high level of technical capabilities of the equipment, and compliance with the rules of handling samples for research).

Today, there are a large number of effective studies in the field of document forgery. Traditional methods of forgery and ways to detect them have been widely studied by O. Vorobey & A. Kofanov [1]. The fundamental work of these authors is of high applied significance. The works of various scientists are devoted to separate methods of falsification and means of detecting them. Thus, H.M. Kutskir [4] in the study of technical methods of signature forgery came to the conclusion that each of them is characterised by its own set of features that are unique to it. Operating with knowledge of such sets of characteristic features, an expert will be able to successfully detect a forgery [4]. O.I. Lytvytska & O.P. Lytvytskiy [5] proposed a number of material and statistical methods for detecting signs of interference in the primary image of a photographic document.

A significant place in the process of expert examination of documents is given to methodology. L. Talyanchuk [8] proposed the division of methods used in conducting a technical examination of documents into general, general scientific and special methods. Such a classification is rational and well-grounded since accurate and effective expertise should involve a fairly extensive knowledge base, which includes both broad and specialised competencies. The complexity of the applied methodology in the examination of documents was also favoured by American scientists D. Ellen, S. Day & C. Davis [10] and the European archivist theorist H. Booms [20].

At the same time, the modern dynamics of technological development require new approaches in the methodology of expert examination. O. Savchuk [3] notes progressiveness in the direction of conducting expertise using computer technology, in particular in the study of document texts. N.V. Ghadan [2] details modern technologies of expert examination, while identifying a number of advantages that their implementation in the examination process provides. O. Vikhlyaev & I. Germanyuk [21] argue that the trend in the development of the latest technologies sets the leading direction for improving economic expertise related to the introduction of electronic document management. The same opinion is expressed by researcher I. Rechtman [22], who focuses on the latest technologies as a guarantee of effective documentary examination in the face of high-tech fraud [22]. S. Naumenko, S. Bruhan & O. Kataraga [9] advocate for the introduction of computer aids when performing identification tasks of small text examination, while N. Syrotenko, R. Tamoshiunaite & V. Abrosymova [23] highlighted the effectiveness of traditional methods for the study of short texts, provided that there is a sufficient number of samples.

The most promising area for the optimisation of expert work in the technical examination of documents should be further improvement of identification methods through the widespread use of computer technology. Computer diagnostics has an advantage over subjective diagnostics, as it eliminates errors caused by failing to recognise any subtle signs. It also delivers substantial time-saving benefits by automating the data processing stage. Today, the tasks of technical examination of documents are complicated by the extensive use of the latest technology. Thus, if previously documents were forged by printing or typing, now this process is performed by means of computer systems. Under such conditions, the detection of the fact of technical editing requires not only special expert knowledge but also relevant modern practices.

V. Peliushok [6] argues that altering parts of a document using a personal computer (hereinafter referred to as PC), is called reprinting and is a manifestation of technical editing of the document. Among the signs of technical editing, she singled out the following: differences in the structure and toner of strokes, mismatching of identical printed characters, the presence of printing defects, traces of erasing and scraping, discrepancies in the overall placement of characters, displacement of vertical and horizontal lines, lack of a protective surface grid of the document material [6]. Similar features of the edited documents were proposed by scientists N. Hamasaki, K. Nakamura, N. Nitta & N. Babaguchi [14].

Modern PCs are equipped with text and graphic editors, which are widely used in document forgery. In this case, the original document is modified using

the relevant computer software by placing another image or text or correcting the existing content, with the resulting forged document being printed. The text of the document can also be edited by photocopying equipment. New text or images are placed over the original document, then the document is photocopied and duplicated. The above methods are often combined in the falsification of documents, while the application of additional equipment in the production of forgeries always complicates the examination process and requires proper technical support.

One of the practical issues of the examination, especially of handwritten texts, is the refusal to provide the original document. This is explained by the reluctance of interested parties to lose the document, because there is a possibility of the document being damaged or destroyed during the examination, for example, due to the use of physical and chemical methods. This problem must be solved by innovative solutions using diagnostic and identification computer programmes, which will reduce the risk of damage to the object of examination to zero. The active use of plotters complicates the process of detecting forgery during the examination of the signature on the document. The signature made using a plotter does not contain signs of delayed coordination during its application and imitates the handwritten signature so accurately that the detection of signs of falsification requires appropriate expert knowledge and methodological support.

At the same time, one can not but note the positive dynamics of the use of interactive PC features in handwriting examinations. Such branches of investigation as computer graphometry and scanography are widely used today [3]. Computer graphometry is used for the structural measurement of text characters, their elements with simultaneous recognition of similar and distinctive features and compilation of the results. Computer scanography makes it possible to study the features of the dye, which is part of the text fill, in the most advanced format, with regard to a large number of known properties and features of dyes.

There are certain obstacles in the process of determining the age of documents. The relevance of this issue is related to the fact that the request for such technical examination of documents accounts for the majority of the total expert demand. First of all, difficulties are caused by the unwillingness, for reasons of a procedural nature, to provide the original document for examination. As in the examination of handwritten texts, there is a certain probability of such a sample being damaged, since the relevant research involves the use of so-called "destructive methods" (methods of physical and chemical exposure). Besides, the experiment, apart from basic knowledge in the legal field, also requires fundamental knowledge in chemistry and physics, which gives grounds to argue about the inherent high level of competence required of the expert.

Now there is no single methodology for conducting this kind of examination. Experts usually use a comprehensive approach. Therefore, it is essential to have proper multifunctional and versatile material and methodological support for the examination process, including high-tech modern computer diagnostic and copying equipment.

A separate area of technical examination of documents at the present stage of the development of public relations is the examination of electronic documents. Electronic document management is a relatively new and underdeveloped phenomenon. However, the relevance of this area of research is exceptionally high. Today's business world is the space of information technology (hereinafter referred to as IT), which is evolving at a rapid pace. The IT industry is literally replacing paperwork because it offers advantages in saving space and time, which is extremely beneficial in a frantic rhythm of life. An example of the relevance of electronic document management was the 2020 pandemic, due to which almost the entire business world switched to remote work via digital interactions. At the same time, the need for the examination of documents containing e-data has increased. Therefore, it is particularly important to further explore this area of technical examination of documents.

Digital technologies are being introduced at an accelerated pace in our new digitalised society. At the same time, there is a rapid increase in financial crime, which is based on the realisation of fraudulent schemes using IT technologies. Naturally, there is a growing demand for countering this type of offence, and it requires high-tech expert examinations [21]. Scientists M. Cam, H. Fielding & R. Cohn [24] have repeatedly stressed that expert knowledge is extremely important for conducting a quality examination, and therefore must be constantly improved. Currently, there are certain challenges in this area, primarily related to the necessity to have, in addition to basic, specialised knowledge in the IT industry. The same point of view is expressed by M. Politzer [25], who emphasises that for a quality examination it is desirable to combine the knowledge of experts with the knowledge of IT specialists.

Indeed, the expert is faced with the tasks of recreating erased data; analysing the server activity of PC users; detecting suspicious accounts; working with cloud storage; processing a huge amount of virtual data on the subject of their illegality. The solution to such complex tasks is impossible unless high-tech computer equipment and professional skills of its use are available, which, of course, implies a costly financial contribution. The conversion of paper documents into electronic format ( technical images or electronic copies) also allows for fraudulent manipulations, in which a forgery is created by using authentic images of the requisites, however with altered content.

Today, the study of digital document management requires the introduction of fundamentally new

expert methods since traditional methods of document examination are focused on resolving other issues. The adoption of artificial intelligence technologies should become a priority for expert practice. Thus, the transition to advanced technologies is the key to effective and accurate expertise. At the same time, the technological support of expert activity should perform an information and analytical function related to the processing of a significant amount of data to be investigated, as well as allow for the systematisation and archiving of the expert findings. The methodological function of technical support is to equip the examination process with the necessary serviceable and highly efficient equipment. The function of protecting both the expert examination process itself and the results obtained is also important.

It would be beneficial to exchange experience of expert practice at the international level and attract transnational investments in the development of the research industry and its progressive material and methodological support. After all, productive and highly accurate document examination is the key to an effective fight against fraud and forgery, which is the central policy of highly developed countries. Also important is the information and analytical component of international cooperation in improving the expert practice, in particular, the preparation and systematic publication of newsletters that would describe examples of examinations and dictionaries that would facilitate communication between scientists from different countries. The key to the advancement of document examination should be the established interaction between experts and representatives of law enforcement agencies. A similar argument is expressed by the scientists G. Pomerantz, N. Sliger, M. Barba & K. Van Tassel [26], who emphasise the need for clear and effective interaction between expert units and investigative bodies. Thus, the introduction of modern technologies in the technical examination of documents indicates the desire for the progressive development of academic research in this area and commitment to quality international standards.

## Conclusions

The study analysed the general provisions of the technical examination of documents, reviewed the main methods of forgery in document management, identified the characteristic signs of falsification in documents and introduced modern technologies used in the identification of document falsifications.

Detection of any kind of forgery is a complex and multi-level process that requires the application of fundamental wide-ranging expertise and effective technologies. As any applied field, the field of expertise has a range of problems that need to be solved. The key among those is material and methodological support with modern technologies, which implies a significant financial investment. However, proper expertise is the key to the eradication of crime, so it is advisable to attract financial assets, both at the level of relevant provisions in state budgets and at the level of individual investment programmes, including transnational ones.

Equally important is a steady increase in the level of expert knowledge because technological progress today is impressively dynamic. In this respect, it is advisable to exchange world experience in research practices within the framework of international conferences, summits, congresses, seminars and meetings. The optimal result of the examination is a consistent conclusion of the high-profile work, which is a symbiosis of the expert's qualitative knowledge and productive technological means by which this knowledge is implemented. After all, the more advanced the methodology and technique used in the expert examination, the more accurate the conclusion.

Furthermore, modern technologies greatly facilitate expert work, saving time and eliminating the subjective possibility of making an error. The automated process has a wide range of programmed operations: identification, measurement, statistical analysis, mathematical modelling, comparison, evaluation and recording of the result. The advantage of using software tools in expert examinations is also in capturing and analysing those attributes that may be invisible during a conventional expert examination. The combination of traditional expert methods with the features of advanced technology is the key to obtaining the most complete and accurate results.

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# Сучасні технології технічного дослідження документів

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**Анотація**

Актуальність вивчення сучасних технологій дослідження документів зумовлена прискоренням темпів інноваційно-технічного прогресу, який продукує високотехнологічні досягнення, що використовують не лише в раціональних цілях, а й для високоякісної фальсифікації документів задля досягнення неправомірних корисливих цілей. Метою цієї статті стало вивчення новітніх способів підробок документів і наявних технологій їх виявлення з метою оцінки рівня розвитку сучасного експертного дослідження в зазначеній сфері. Задля досягнення результату під час дослідження цієї теми використано комплексний методологічний підхід, який полягає в послідовному застосуванні методів наукового пізнання, аналізу отриманих знань, їхній систематизації та узагальненні з метою побудови системної моделі сучасного процесу технічного дослідження документації, а також застосування методів порівняння й оцінки задля виявлення слабких рис у використанні наявних технологій, методу наукового прогнозу перспективи розвитку в зазначеній галузі. У результаті дослідження висвітлено загальні теоретико-методичні та процесуальні положення, якими керується процес експертизи документів, означено відомі та найбільш уживані способи фальсифікації документів, вивчено методологію встановлення характерних ознак різного роду підробок і технічні засоби, які використовують для їх виявлення, окреслено наявну в цій галузі проблематику та перспективу для її подолання. Здобуті таким чином знання закономірно сприяють формуванню фундаментального інформаційного багажу, який має використовуватися в експертній роботі задля досягнення найточніших і виправданих результатів. Проведене дослідження має високу прикладну цінність, оскільки акцентує на оптимальних й ефективних сучасних технологіях експертизи у сфері документообігу, висвітлюючи їхні характерні особливості та переваги, наголошуючи на нагальності потреби в застосуванні останніх досягнень техніки під час проведення експертизи документів

**Ключові слова:**

фальсифікація; експертиза; діагностика; ідентифікація; оцінка результатів; інноваційний прогрес; програмно-аналітичний комплекс; комп'ютерно-розмножувальна техніка

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# Ways to increase competitiveness in the field of forensic examination of Azerbaijan and countries of the world

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**Abstract**

Application of special knowledge in the process of detection and investigation of crimes, ensuring the right to defense or in the process of representation of victims' rights has a special importance in building a legal and democratic society in Azerbaijan. Crime has acquired new, qualitative characteristics, has become professional, armed and organized. Therefore, forensic activities have become indispensable tools in the process of legal proceedings, in which criminal justice has a special place. The scientific study of the problems of increasing the competitiveness of forensic expertise of Azerbaijan and the countries of the world, is the topical task of the article. The purpose of the scientific study is to identify objective and subjective reasons for the lack of competitiveness of forensic expertise in the Azerbaijan, in comparison with other world leaders. To achieve the goal of scientific research a system of philosophical, general scientific and special scientific methods (comparison, description, analysis and synthesis, induction, deduction and analogy, abstraction, generalization, systematic approach and others) was used. The article examines the theoretical, regulatory and practical problems of ensuring the competitiveness of forensic activities in Azerbaijan. It was found out that the competitiveness of forensic activities was not properly ensured due to the imperfections of the current legislation in Azerbaijan. As a result of the study, it was proposed to introduce amendments to the current legislation, which would allow not only state, but also non-state (private) enterprises and independent experts to carry out forensic examinations

**Keywords:**
forensic expert; expertise; legislation; alternative expertise

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## Introduction

In the modern world, under the conditions of rapid changes taking place on a global scale, solving the tasks related to protecting the competitiveness of any enterprise that provides products, goods and services is not a simple matter, so it requires great effort, strong energy, durable determination, including a rigorous scientific approach. Competition is essentially conflict, although the producer and the consumer have equal opportunities, it means their desire to win by using these opportunities more effectively and stimulation of the improvement of the production result by this process. In this context, competition is inherent to the nature of the market and one of the most active elements of economic development. Competition, firstly, reflects the struggle between producers, secondly, between producers and consumers, and thirdly between consumers for the understanding of their interests. As each of them tries to achieve favorable conditions in production, sale and purchase, this struggle always prompts them to improve and develop production. So, failure to tolerate the competitive struggle means the danger of bankruptcy.

Thus, although the word "competition" in the public mind is mostly associated with the struggle between economic or market entities, in fact, this phenomenon exists to some extent in all spheres of social life. However, it should be noted that the aspects of the competition phenomenon vary depending on the field of activity. For example, in terms of economic relations, competition is mainly considered in 4 aspects:

– as a set of rules for all participants;

– as the degree of competition in the market;

– as a self-regulating element of the market mechanism;

– as a criterion determining the type of industrial market [1].

Clearly, competition is a special liaison expressed between participants who have relations in a certain field of activity and stimulates the corresponding activity performed. Competition, in general, is a race for advantage, a struggle to go further, to be more efficient, to be better, and to achieve higher results. The famous English economist A. Smith [2] believed that a decrease in supply leads to immediate competition between customers and an increase in prices, while an increase in supply leads to the opposite process. In this context, the essence of competition is being characterized as a series of interconnected efforts of sellers to control the market in the long term, calling it the "hidden hand" that moves the market.

The most practical definition of competition was given by G. Stigler (1911-1991) [3], the American economist, 1982 Nobel laureate. According to him, competition is the struggle of rivals for relative superiority as a process of responding to new power and a way to reach a new equilibrium [3].

Competition is the need to use all important ways and methods for increasing the efficiency of the enterprise, ensuring customer satisfaction, and increasing the number of customers. In this respect, competition should not be seen as a negative process, but rather as a factor that promotes development and efficiency. The negative is unsound, in other words, unfair competition, which is expressed in the form of injustice and illegal acts. Unfair competition in legislation aims to gain an advantage in the entrepreneurial activity of a market entity by being unjust and contrary to the current legislation, thus, it is defined as actions that may harm other market subjects (competitors) or damage their commercial reputation. Summarizing the above, it can be determined that reasonable competition is not only permissible, but also commendable, as it promotes development and unfair competition (for example, discrediting the competitor's economic activity, monopolistic activity, interference with the competitor's economic activity, etc.) is illegal and causes liability, as it uses unlawful acts, unfair approaches, and unsound methods to gain an advantage over the competitors.

## Literature review

When considering forensic activities in the context of these provisions, a different point of view has been shaped. In most cases, national legislation only provides a basis for the existence of the state forensic examination system. However, in addition to the development of the scientific and legal foundations of forensic expertise, scientific research continues to improve the determination and execution of forensic expertise. The necessity of these studies is conditioned by the improvement of the state legal system and the development of the democratic basis of the criminal procedure. The acceptance of normative documents on the activity of forensic expertise, and the implementation of deep reforms in the areal legislation, give a certain impetus to the implementation of the important principle of legal proceedings, such as litigation. However, it should be admitted that in developed and advanced foreign countries, the experience of conducting expertise by not only state, but also non-state (private) enterprises and independent experts are widely applied, which is directly related to the topic of alternative expertise. Providing the guarantee for the existence and operation of alternative expertise is also a manifestation of creating competitive conditions in the field of forensic expertise.

Although the sufficient number of works is dedicated to alternative expertise and its necessity in modern legal theory, issues of the procedural form of such expertise (whether or not the defense attorney has the authority to appoint direct expertise, or if he does it through an intermediary, i.e. through a body that carries out criminal proceedings, submission of expert opinion to the body conducting criminal proceedings, etc.) are disregarded, one of the main reasons for this is that in the legal mind, expert proceedings on criminal cases are

still considered criminal prosecution or the prerogative of judicial authorities. In some cases, the absolute necessity of providing the initiative of the parties, especially the defense side, on expertise is revealed and it is noted that this should be done through the agency performing the criminal process. In general, in the literature, mediated expertise determination method is defended by the participants of the criminal process [4].

According to the Azerbaijani authors, models generally have the right to exist in independent investigations, where the lawyer should sue before an investigator or court to obtain an expert opinion, but it will always be more ineffective than the ability to independently form an opinion on contract with an expert. Because the outcome of such a request will always be at the discretion of the body performing the criminal process [5]. It is also shown that in terms of the principles of litigation, obtaining legal assistance and ensuring the right to defense, the means of proof of the parties in the criminal process should have equal epistemological bases, the possibility of the subjects of the criminal process to turn to persons with special knowledge for defending their position should not be limited for formal reasons, and expert opinion obtained as a result of alternative expertise should be evaluated as evidence on the general grounds established for such evidence [6].

The article by V. Mamedov, A. Mustafayeva and J. Suleymanov [7], rightly stated that alternative expertise was of great importance for ensuring human rights in the criminal process and realizing the principles of conflict, and shown that the declarative nature of applicable norms precluded the use of alternative expertise in practice.

Simultaneously, the issue of competitiveness in forensic expertise requires attention to the issue of "Experts' strife". An expert is a procedural figure with legal status, regardless of whether working in a state or non-state institution, and whether performing this activity on a permanent basis or by accident (for example, the involvement of a high school teacher who is a specialist in the relevant field as an expert). The law doesn't provide for any differences between experts, it only determines the need to determine their appropriate competence. "Experts' strife" actually begins with the preparation of a decision on the appointment of an expert by the court. The judge determines the expert assigned to carry out the research and makes sure of his competence. After the research is conducted, the parties have the opportunity to request additional or repeated expertise during the review process.

Such an opportunity may be presented to the parties before the court appoints an expert. Simultaneously, it should be recognized that it is a more convenient way for the parties to submit expert opinions, because the court may have the opportunity to entrust the determination of the expert research of the same object to another expert during the process of studying the evidence presented by the parties. By giving the opportunity to present the expert opinion to the court, the party has the opportunity to hope for its evaluation. For example, a lawyer may attend a court review and convincingly prove that the expert's opinion is unfounded [8]. Thus, the "conflict" of experts' opinions helps to form reasonable internal confidence in the court. Perspectively, it is correctly stated in the literature that regardless of the court decision on the appointment of the expert and the court's considerations, providing the parties with the opportunity to present the opinions of experts (including specialists) has a positive effect on the realization of the principle of conflict between the parties in judicial proceedings [9].

## Materials and Methods

The object of scientific research was the problem of formation and expression of competition in forensic activities as a special type of social activity in Azerbaijan. The main method of research of problems of alternative expertise on the example of Azerbaijan, Great Britain, the United States of America, Canada and the European Union, is a dialectical method of cognition.

The dialectical method of cognition made it possible to formulate recommendations to ensure the competitiveness of the forensic activities on the basis of the laws of forensic activities. The following philosophical categories were used as an instrument of cognition: quantity and quality, content and form, necessary and accidental, cause and effect, general, special and singular, cause and effect, essence and phenomenon. In considering the topic of the publication, a system of specially scientific methods of legal knowledge were used, namely: analysis, synthesis, formal-logical, system-structural and comparative-legal methods.

In the process of applying the formal-logical method of research of problems of formation of competition in forensic-expert work, the need for expertise not only by state, but also by non-state (private) enterprises and independent experts was revealed, which is directly related to the topic of alternative expertise. In the process of studying the problems of legislative support for alternative expertise, a systematic method was applied. The systematic method involves considering the subject of scientific research as a system, which has a certain structure containing interrelated elements. The comparative-legal method and method of analysis made it possible to consider the legislative and law enforcement experience of creating and using alternative expertise on the example of Great Britain, the United States, Canada, the European Union and Azerbaijan. The method of synthesis allowed to summarize, highlight the characteristics and systematically identify common and different trends of normative and legal regulation of alternative expertise in the United Kingdom, the United States, Canada, the European Union and Azerbaijan. In the process of reasoning and substantiation of the relationship between the concepts, the formal-logical method was applied in

the studying of the concepts of "independent expertise", "parallel expertise", "non-state expertise", "extrajudicial expertise", "expertise". The formal-logical method was applied in the process of describing the economic factor as a specific aspect of the formation of competition in the field of forensic expertise. The system-structural method allowed to identify a number of normative-legal measures for the optimal implementation of alternative (private) expert studies in the criminal process.

## Results

Experience shows that the appointment, execution and use of non-state expert opinions, the choice of an expert institution or a specific expert cause problems such as their level of preparation and qualification. The mechanism of determining the forensic examination at the request of people such as the victim, civil plaintiff, civil defendant, and their representatives, who have an independent legal interest in the resolution of the case isn't fully developed [10]. The rights of the mentioned people should be determined at a comprehensive level during the appointment and execution of expertise. Failure to resolve these issues leads to differences in the results of "state" and "non-state" expert opinions, causes complications in the evaluation of competing expert opinions, and also leads to violation of procedural rights of people with an independent legal interest in the case. The mentioned fact objectively requires a deeper and systematic study of the theoretical and practical aspects of the determination, implementation and use of non-state (private) expertise in criminal proceedings.

One of the debatable issues with alternative expertise is terminology. Therefore, sometimes instead of this term, the expressions "independent expertise", "parallel expertise", "non-state expertise", "non-judicial expertise", "expert's expertise" are used. As a rule, at the request to carry out parallel expertise, the party having doubt on the knowledge or impartiality of the expert of the state forensic examination performing the examination by order of the court or investigative body and whose petition was rejected in this regard performs. Non-state expertise is expertise performed outside of state expertise offices. F.Y. Khalilov [5] shows that not only the expert opinions appointed by the lawyer outside the state expertise offices, but also the expertise appointed outside the state expert offices of the bodies implementing the criminal process are considered non-state expertise.

In the legislation of some states, specific approaches are formed in solving the problem of ensuring procedural principles of litigation and equality of parties. Based on the study of the law enforcement experience of Great Britain, the United States of America, Canada, and the European Union, processualists suggested adopting a number of measures for the optimal implementation of the mentioned principle at different stages of the criminal process. For example, the following additions and changes to the Criminal Procedure Law are recommended: providing the defense attorney the right to send materials to state and non-state institutions for conducting forensic examinations; detailed regulation of the procedure of collecting information important for the defense attorney's criminal case; repealing the provision regarding the necessity of obtaining the consent of the investigator for the defense counsel to participate in the investigation proceedings; adding a provision on the initiative to appoint a forensic expert to the defense [11]. Surely, the importance of these provisions should not be devaluated, but it should be admitted, however, that they are quite debatable.

Political changes in Ukraine in the last decade of independence also gave impetus to practical changes at all levels of government. The active activity of law enforcement agencies encourages the reorganization of the judicial system, and forensic examination occupies not the last place in this process. To increase the competitiveness of this industry in Ukraine, it is possible to apply the following steps: a thorough check of the presence of a direct connection between the level of knowledge of the involved experts and their certificates for conducting examinations; providing the suspect with the opportunity to challenge the appointed decision of the officially engaged expert by proposing the opinion of another expert; involvement of independent experts to review the indictments and court conclusions; reduce the time of conducting court cases in order to prevent distortion of testimony and expert assessments; prevent cases of corruption during the judicial assessment [12].

In Azerbaijan, the cases of organizing and conducting expertise in the relevant fields of criminal cases are carried out by the Department of Criminal Investigations of the Ministry of Internal Affairs of Azerbaijan, Forensic Expertise Center of the Ministry of Justice, Forensic Psychiatric Expertise Center of the Ministry of Health and Forensic Medical Expertise and Pathological Anatomy Association and its departments based on the order (decision) of criminal prosecution and judicial authorities. Except for the Criminal Investigation Department of the Ministry of Internal Affairs of Azerbaijan, no other institution is authorized to carry out the expertise included in the research subject of other expertise institutions on criminal cases. Each of them engages in expertise activities that can only be carried out by them on a nationwide scale. The competition between them is therefore impossible. In such case, it seems possible to form competition by organizing alternateness in separate fields of expertise.

The principles of the expertise that can be implemented by private forensic experts were determined by the Decree of the President of Azerbaijan "On Deepening the Reforms in the Judicial-Legal System" as of April 3rd, 2019[1]. It provides the possibility of carrying out other expertise related to forensic calligraphy, author studies, art studies, forensic-technical of documents, forensic-veterinary, forensic-accounting, forensic-commodity, and economic activity by the state forensic

[1]Decree of the President of the Azerbaijan "On Deepening the Reforms in the Judicial-Legal System". (2019, April). Retrieved from https://president.az/ru/articles/view/32587.

expertise institution and by private forensic experts. This means that before the mentioned change, there was a literal monopoly in the field of forensic expertise in the country, in other words, there was no competition. Competitiveness in the field of forensic expertise is also related to the problem of training highly qualified expert personnel in the relevant field for conducting expertise. The character and nature of the judicial expert profession require the special attention to be paid to the subject of training and improving the qualifications of expert personnel. This is conditioned by the characteristic features of the forensic expert profession.

In Azerbaijan, the training of forensic experts in almost all areas of forensic expertise is carried out directly in forensic expertise departments (expert training method at workplaces). Although such factors as the lack of a standardized educational process, difficulties in objectively evaluating the level of knowledge obtained during the preparatory process act as shortcomings of this method, in several countries, including the United States, it is used as the main and traditional means for training experts. Clearly, it is impossible to prepare experts in all fields within the framework of higher expert education. The essence of additional special training of experts as a method of professional education is that a person with a basic profile education in the most diverse fields such as science, technology, art or art masters the methodology of different types of forensic expertise, the general theory of forensic expertise, and procedural law norms. After that, this person is certified as an expert with the right to conduct a certain type of forensic examination.

One of the processes observed in the modern world is the inability of the current education system to provide extensive and comprehensive forensic expert training. As if the "aging of education" and the lack of experienced experts are felt in every field. Of course, this is the result of many factors, including the rapid increase in the volume of information in all fields of activity. However, the important role of higher education institutions in the field of highly qualified personnel training is undeniable. The availability of modern, highly technical laboratories, rich library funds, and opportunities to discover and support promising students in higher schools can help attract young and educated scientists to this field.

However, it is possible to observe some shortcomings in this field in most of the CIS countries:

– non-fulfillment of the actual requirements and needs of law enforcement agencies for special knowledge on modern science and technology and specialists who are carriers of this knowledge, both quantitatively and qualitatively;

– inability to use the latest achievements of science and technology;

– the system being oriented not on the prevention of crime, but on the elimination of the consequences of committed criminal acts;

– the system being conservative, non-autonomous and inactive, etc. [13].

The experience of developed countries shows that forensic institutions are aware of the realities of crime actively using the achievements of scientific and technical progress and operate in close relations with scientific and educational institutions in relevant fields [14-16]. For example, in Switzerland, there is an institute of police sciences and criminalistics organized under the Faculty of Chemistry of the University of Lausanne. At the criminal police institute in China, students attend classes such as forensic chemistry, forensic art studies, and forensic photography, and the training of forensic doctors is carried out at the Faculty of Forensic Medicine of the Criminal Police Institute [17-18].

In the process of mandatory training with applicants for the position of a forensic expert at the Academy of Justice of the Ministry of Justice of Azerbaijan, lectures and seminars are held on topics such as the Constitution of Azerbaijan and the basics of the law, normative acts ensuring the development of judicial bodies, human rights and the European Court. The curriculum also includes lectures and exercises on criminal law, criminal procedural law, civil law, labor law, family law, administrative proceedings and administrative-procedural law, basics of ecological law [19-21]. In addition, it is necessary to develop programs for training experts in traditional and new expertise. A forensic expert should have the deep legal knowledge, besides knowing the basic science and forensic theory and master modern expert technologies, as well as the approved expert research methodologies [22-24].

Special attention should be paid to the content and structure of the programs for the training of forensic experts, the modern realities, requirements of forensic investigation and expert experience should be taken into account when determining the issues to be taught in these programs. Undoubtedly, the training of expert criminologists requires essencial spendings, expensive equipment, specially designed auditoriums, laboratories, and playgrounds, and this factor should not be overlooked.

## Discussion

The number of scientific works dedicated to the alternative expertise and the special importance of the latter in modern legal theory is quite sufficient. The works in the field of criminal justice are of particular interest for the purposes of this article. M.Kh. Bitokova [4] argues about the need to ensure the initiative of the parties, especially the defense, to conduct an expertise. The scientist notes that the appointment of expertise should take place through the body that carries out the criminal process. This way of consistent appointment of the expertise by the participants of criminal proceedings is defended by the scientist. It is difficult to agree with this position because of the following.

The right to appoint a forensic examination with respect to the principle of confidentiality is a necessary condition for ensuring the right to defense, the principle of adversarial criminal procedure. Appointment of a forensic examination through the body conducting the criminal proceedings, submission of the expert opinion to the body conducting the criminal proceedings does not allow to fully carry out independent and effective defense of the accused person and violates the adversarial principle in the process of collecting evidence in criminal proceedings. Thus, the body of pre-trial investigation has significantly more tools to collect evidence (investigative and procedural actions) than the defense. In addition, the body of pre-trial investigation in the implementation of investigative actions may use the legal regime of secrecy of pre-trial investigation. This puts the defense and the prosecution in substantially unequal conditions.

F.Y. Khalilov [5] writes that this position has the right to exist only in independent investigations. In such investigations, the lawyer may apply to the investigator or the court to obtain an expert opinion.

The scholar argues that this will always be ineffective than a lawyer acting independently and obtaining an expert opinion under an independent contract with an expert. It is due to the the outcome of the attorney's application will always depend on the body conducting the criminal proceedings, which certainly puts the prosecution and the defense in unequal conditions.

The author agrees with F.Y. Khalilov, who argues that from the point of view of the principles of legal proceedings, obtaining legal aid and ensuring the right to a defense, the means of proof of parties in criminal proceedings should have equal procedural opportunities of subjects of criminal proceedings, especially in matters of application of special knowledge for their own defense [6].

Expert conclusion obtained as a result of an alternative expertise should be evaluated as evidence on general grounds established for such evidence [6]. Undoubtedly, this approach to ensuring the rights of the defense, victims in criminal proceedings is intended to promote the principles of adversarial and equality in criminal proceedings. This is a necessary basis for a fair trial and establishment of the rule of law in Azerbaijan.

V. Mamedov, A. Mustafayeva & J. Suleymanov [7] pay due attention to the role of alternative expertise in criminal proceedings. The importance of ensuring the principle of adversarial proceedings, as well as the legality of the evidence in criminal proceedings directly depends on the possibility of the defender to apply for an alternative forensic examination. The procedure for the appointment and conduct of forensic examinations gives many reasons to reproach investigators and courts in violation of these principles. In these circumstances, there is an inequality of arms, the consequence of which is a violation of the right to a fair trial, because there is an inequality of prosecution and defense in the process of appointment of forensic examinations. The investigator and the court often familiarize the accused (suspect) and their defender, as well as the victim and their representative with the order on appointment of a forensic examination not before its start, as follows from the logic of the law, but much later after the beginning of the study (usually after receiving an expert report). This widespread violation, unfortunately, does not always meet the adequate reaction of the court.

By failing to familiarize other participants in criminal proceedings with the ruling on the appointment of a forensic examination before it begins, and by failing to respond to it, the court deprives them of the opportunity to timely challenge the experts or suggest other expert candidates, as well as to put their own questions for the examination. In essence, in this case, the decision to conduct an expert examination appointed without the participation of the accused (suspect), defense counsel, the victim and his representative predetermines the conclusions of the experts, which is inadmissible, based on the presumption of innocence and the principles of equality and adversarial proceedings.

By providing the opportunity to present an expert opinion to the court, a party has the opportunity to hope for its evaluation. One can't agree with the statement of E.A. Zaitsev about the possibility of presence of a lawyer in the process of expert examination and prove the unreasonableness of the conclusion [8]. The lawyer performs the function of a defender of the accused or representative of the victim has purely legal knowledge in the field of criminal procedure. At the same time, the lawyer does not have special knowledge, methods of implementation of forensic activities. This is what will prevent the lawyer from giving a qualified assessment of the expert opinion. That is why the possibility of independent, alternative expertise is of particular importance.

Nevertheless, an important aspect in providing alternative (private) expert examinations requires the provision of qualified expert personnel, control over the activities of private experts and development of a mechanism for the appointment of forensic expertise on petitions of the defense, victims and other participants in the criminal process.

The need to provide the right to appoint and conduct alternative forensic examinations not only to preliminary investigation agencies, the court, but also to other participants in criminal proceedings is long overdue. Based on the principles of equality and adversarial proceedings, the right to appoint expert examinations should be given not only to the defense (the suspect (defendant) and defense counsel), but also to the victim and their representative, related to the prosecution.

## Conclusions

Summarizing the above, it can be stated that serious reforms shall be implemented in the field of training of forensic experts. A new system based on a modern

and complex approach should be created in principle, without destroying the existing traditional teaching-training system in this field. Therefore, by organizing a unified curriculum at the international level, it is possible to create an educational institution similar to the Center for forensic examination institutions that provide training, retraining, advanced training and coordination of highly qualified specialists. In this center, specialists involved as experts and working in various fields of activity can get the opportunity to receive the necessary level of training. Along with the neeed organizational, technical and financial resources, the creation of departments of the general theory of forensic examination (forensic examination), information technology in forensic examination, forensic chemical and physical research methods, traditional forensic examination, forensic biological examination, forensic economic examination. expertise, forensic engineering expertise and transport expertise should be provided.

Thus, summing up the results obtained in the course of the study, the author proposes the following:

– provide equal conditions for participants in legislation for the functional operating of private and alternative expertise institutions;

– determine the criteria for measuring whether the competitive environment in the field of expertise is sound or not. For this purpose, it is considered appropriate to make the results of the activities of expertise institutions public, regardless of their organizational and legal status (comparison of received work and performed work, analysis of negative indicators, etc.);

– make implicit information that is part of the activity for subjects operating in that field available, taking into account the specificity of the field (preparation of special methods, instructions, etc.);

– summarize the requirements and expectations of the customers in accordance with the law, carry out regular surveys, and focuse the activity on this direction (analyzing complaints and inquiries, publicizing opinions and suggestions received from the court and law enforcement agencies);

– organize work towards increasing the training process and professionalism of expert personnel, establishing an educational institution that coordinates activities in this field;

– accept the State Programs to support the provision of quality technical equipment and their application to all subjects of relevant activity;

– provide customers with the opportunity to evaluate the services ensured by subjects operating in the field of expertise according to the same criteria.

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# Шляхи підвищення конкурентоспроможності в галузі судової експертизи Азербайджану та країн світу

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**Анотація**
Застосування спеціальних знань у процесі розкриття та розслідування злочинів, забезпечення права на захист або в процесі представництва прав потерпілих має особливе значення для побудови правового та демократичного суспільства в Азербайджані. Злочинність набула нових, якісних ознак, стала професійною, збройною та організованою. Тому судово-експертна діяльність стала незамінним інструментом у процесі судочинства, у якому кримінальне судочинство посідає чільне місце. Актуальним завданням статті є наукове дослідження проблем підвищення конкурентоспроможності судової експертизи Азербайджану та країн світу. Метою наукового дослідження є виявлення об'єктивних і суб'єктивних причин недостатньої конкурентоспроможності судової експертизи в Азербайджані порівняно з іншими світовими лідерами. Для досягнення мети наукового дослідження використовувалася система філософських, загальнонаукових і спеціально-наукових методів (порівняння, опис, аналіз і синтез, індукція, дедукція та аналогія, абстрагування, узагальнення, системний підхід тощо). У статті досліджено теоретичні, нормативні та практичні проблеми забезпечення конкурентоспроможності судово-експертної діяльності в Азербайджані. З'ясовано, що конкурентоспроможність судово-експертної діяльності не була належним чином забезпечена через недосконалість чинного законодавства в Азербайджані. За результатами дослідження запропоновано внести зміни до чинного законодавства, які дозволять проводити судові експертизи не лише державним, а й недержавним (приватним) підприємствам та незалежним експертам

**Ключові слова:**
судово-медичний експерт; експертиза; законодавство; альтернативна експертиза

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# Features of the formation of the judiciary: national and international experience

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**Abstract**

The relevance of the article lies in the need to conduct a comparative study of the peculiarities of the formation of the judicial corps in Ukraine and in the leading countries of the world in order to clarify the effectiveness of the existing national judicial system and its improvement in the future. The purpose of the study is to analyze the peculiarities of the procedure for forming the judicial corps and selection for the position of a judge in Ukraine, European countries, as well as in Great Britain and the USA. The basis of the methodological base, which was used for the study of this material, is the methods of deduction and induction, systemic, logical, dialectical, formal-legal, comparative-legal, historical, systemic-structural, statistical, sociological methods. The work examines the history of the creation of the first courts and the formation of the judicial system of independent Ukraine; a number of concepts are defined, including "judge", "judge corps", "judge corps formation"; the stages of selection for the position of a judge have been established and the requirements for judges in various judicial bodies have been disclosed; a comparison of selection for the post of judge and prosecutor was made; the international experience of forming the judicial corps in such countries as Switzerland, Austria, Germany, France, Belgium, Poland, Great Britain, and the United States was studied; the problems that arise in the judicial system of Ukraine, especially when filling vacant judicial positions, are clarified. The results of the study, obtained in a combination of the study of advanced world and domestic practice in the formation of the judicial corps, can be valuable and useful both for persons who wish to become judges and for all practical employees of the justice system

**Keywords:**

judge; candidate for the position of judge; procedure for selection of judges; reformation; requirements for judges; training of judges

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## Introduction

The democratic development of any country requires the implementation and consolidation of the principle of the rule of law and all its components. The implementation of this principle requires state and judicial authorities to provide conditions for the effective protection of the violated rights and interests of each person. To ensure the proper exercise of the protection of rights, each individual is guaranteed access to a court and an effective and fair trial by professional and qualified judges [1]. Since the creation of the first courts or bodies authorised to resolve disputes, and throughout the historical development of state legal systems, people have had an understanding of the inevitable punishment for wrongdoing. The judicial system is the basis for establishing democracy in the country [2]. For the efficient functioning of the judicial system, it is necessary to create a judicial corps whose activities are aimed at protecting human rights [3]. The formation of a qualified and independent judiciary is a prerequisite and basis for the effective administration of justice. The reason is that only a highly qualified, experienced, and highly moral judiciary can fully protect violated human rights and interests.

The Constitution of Ukraine[1] establishes the division of power in Ukraine into executive, judicial and legislative. The judicial branch of government occupies a special place in the functioning of the state. The Basic Law of Ukraine[2] stipulates that justice in Ukraine shall be administered only by courts, i.e., only courts may hear and decide court cases. Therefore, the formation of an effective and qualified judiciary is necessary for the normal functioning of the court system.

After Ukraine gained independence in 1991, the reform of the branches of power and the judicial system, in particular, has been launched. The reforms affected not only the administration of justice but also the selection and appointment of judges, funding, etc. [4]. Since Ukraine has embarked on the European integration course, it has become important to reform the judicial sphere and, accordingly, to improve the judiciary, and therefore to select candidates for the position of judges in detail. The reform of the judicial sphere and the implementation of effective formation of the judicial corps will allow for a fair and high-quality judicial process and protection of violated human rights.

Within the framework of cooperation between Ukraine and the European Union, considerable attention is paid to improving the judicial system and implementing a number of reforms. The Association Agreement between Ukraine and the European Union[3] of 2014 initiated the renewal and reform of the entire judicial system of Ukraine.

The issue of judicial recruitment in Ukraine has always been relevant, and the current time is no exception. The relevance of this topic is reflected in a number of scientific works, including the works by V. Potapenko [5] & B. Prokopenko [6]. The efficiency, legitimacy and legality of justice depend on the proper and professional judiciary.

The main objectives of this study are:

– defining concepts that reveal the essence of the subject;

– research on the history of the judicial system, including that of independent Ukraine;

– establishing the basic requirements and stages of formation of the judiciary in Ukraine and in leading foreign countries;

– identification of the main models of the formation of the judiciary;

– comparing the processes of recruitment of judges and prosecutors;

– identifying problems that arise in the judicial system of Ukraine, primarily when filling vacant judicial positions, and suggesting ways to solve them.

## Materials and Methods

For an effective and comprehensive study of the subject of this article, a number of general and special methods of cognition were used. Dialectical, logical, and formal-legal methods of scientific cognition became the main means of substantiating the author's argumentation and the results of the research. Thus, using the dialectical method, the stages of selection for the position of judge and the requirements for these candidates were analysed. The logical method and its means are used to justify a particular position of the researcher. The formal legal method was used to determine the main models of the formation of the judiciary.

By using the methods of induction and deduction, analysis, and synthesis, it was possible to study the problems arising during the election and appointment of judges, to identify the problems of administrative-territorial reform and its impact on the activities of local courts. An important role in the study was played by the synthesis method, which analysed international experience in the selection of judges and prosecutors. The use of the systematic method allowed to determine the features of the formation of the judiciary in Ukraine and in foreign countries. The modelling method made it possible to identify areas for improvement in the judicial system of Ukraine and the judicial recruitment process. Using the logical and semantic method, the conceptual apparatus was expanded.

[1]Constitution of Ukraine. (1996, June). Retrieved from https://zakon.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80#Text
[2]*Ibidem*, 1996.
[3]Association Agreement Between Ukraine, of the One Part, and the European Union, the European Atomic Energy Community and Their Member States, of the Other Part. (2014, November). Retrieved from https://zakon.rada.gov.ua/laws/show/984_011#Text.

The historical method was an effective tool of research, used to determine the establishment of the first courts in the world and the formation of the judicial system in general, and to investigate the formation of the judiciary in Ukraine, in particular, after its independence. The comparative legal method is used to compare the selection process for judges and prosecutors, establish their common features and differences. This method was also used to study and compare the formation of the judiciary in Ukraine and in leading foreign countries. The system-structural approach allowed to study the main issues that arise during the filling of vacant positions of judges and to propose ways to solve them.

Statistical and sociological methods were used to establish basic general requirements for candidates for judicial positions, and separate requirements for judges of various judicial bodies. An important role in the study was played by the hermeneutic method, which was used to interpret and justify the application of the main models of the formation of the judiciary. The method of system analysis was used to present the conclusions based on the results of the study. The method of argumentation is used to substantiate the truth of the judgments indicated in the work.

## Results and Discussion

***1. The concept and necessity of formation of the judiciary.*** To carry out an effective study of this subject of the article and to fulfil the set goals and objectives, it is necessary to define the concepts of "judge", "judiciary" and "formation of the judiciary". In a general sense, the term "judge" means a person whose authority is to administer justice. In each country of the world, there are different definitions of the term "judge". According to the Law of Ukraine "On the Judicial System and Status of Judges"[1], a judge is a citizen of Ukraine who is elected and appointed to a vacant judicial position and administers justice in accordance with the legislation of Ukraine on a professional basis. The term "judiciary" shall be understood as a set of existing judges of all instances, as well as jurors, people's assessors, and retired judges. The term "formation of the judiciary", in turn, should be understood as the process of selection for the position of judge in the judiciary, and the mechanisms for the exercise of judges' powers [7].

The institution of formation of the judiciary exists and functions in many countries of the world. These countries have formed and enshrined certain requirements that must be met by a person who has expressed a desire to take up the position, adopted a legal framework regulating the procedure for entering the position, and provided special training and internships in the judiciary.

The basis of this study is to establish the specifics of the procedure and models of appointment or election of judges, and the characteristics of the selection process for the position of judge. Thus, Professor of the Radboud University of Nijmegen – Paul Bovend'Eert spoke about the appointment of judges in Europe [8]: "There is no common or standard procedure for the appointment of judges in Europe. In fact, there are no real European standards for this procedure. The methods of appointing judges vary depending on different legal traditions and legal systems. They may also differ within the legal system. For example, the appointment of judges to lower courts may differ significantly from the appointment to the Supreme Court or the Constitutional Court".

Reflections on Impartiality and Independence by Emma Hakala-Manninen & Suvi Niemelä [9] emphasised: "Independent courts are a defence against the exercise of authoritarian power, and they protect the fundamental rights and freedoms of individuals". It is difficult to disagree with this statement, as professional and independent judges are the guarantors of human rights observance and protection. The prerequisite for this is an effective and high-quality process of formation of the judiciary.

Regarding the issue of the legality of the formation of the judiciary as the basis for the independence of judges, other foreign authors have also expressed the following: "The independence of the judiciary is a guarantee and prerequisite for the formation of a democratic country, as well as the basis for the observance of human rights. In turn, a lawful and fair process of appointment of judges is a prerequisite for their independence" [10].

***2. History of the formation of the world judicial system.*** The origin of judicial dispute resolution and the functioning of the first courts in the world has a long history. It is impossible to establish the exact date of the creation of the first court in the world for two reasons: first, it does not have accurate historical data, and secondly, since ancient civilisations, the consideration of disputes as such has already existed, in the form of a public forum or hearing by the most influential representative of a particular people [11].

The formation of conflict resolution by the legal method took place in the Ancient East since this is where the first signs of civilisation began to emerge, law was formed, and the first procedural forms and procedures appeared. Thus, legal proceedings in some respects were present in Ancient Egypt [12]. From the limited historical documents and monuments that have been preserved in our time, it can be argued that the chief judge and the person who ruled on disputes was Pharaoh. However, in most cases, he handled individual cases and appeals.

Thus, Ancient Egypt did not have criminal, civil or administrative proceedings, but already in those days, there was a step-by-step consideration of the case. The following stages of court proceedings in Ancient Egypt can be distinguished:

[1]Law of Ukraine 1402-VIII "On the Judiciary and the Status of Judges". (2016, August). Retrieved from https://zakon.rada.gov.ua/laws/show/1402-19#Text.

1. The stage of case initiation. Thus, the court case was initiated by filing a complaint, which is now a lawsuit, to the members of "kenbet" [13]. Members of "kenbet" visited and investigated the crime scene. This stage was concluded with the identification of the committed crime.

2. The stage of establishing the circumstances of the case and consideration of the case itself. At this stage, evidence was presented, and participants in the case and witnesses were interrogated. Thus, the interrogation took place through questions from the members of the kenbet and answers given by the participants and witnesses. These testimonies were recorded by scribes.

3. The stage of decision-making and adjudication. This stage has common features with the previous one since the essence of the process clarified in the second stage was also reported and the claim was read out [14].

4. The stage of execution of the court decision. The decisions were made by authorised persons and were subject to mandatory execution. Thus, the decision was set out in writing, and the person accused of committing a crime took an oath to comply with the sentence.

Besides the existence of official (at the country level) judicial bodies in Ancient Egypt, temple courts also existed to resolve disputes.

Medieval Europe was characterised by the concentration of power and governance of the country in the king. It became a well-established practice to subordinate all state institutions to the king, and the judiciary was no exception. The royal authorities tried to limit the so-called "court fights", instead introducing severe punishments for crimes against the king and the kingdom, against the church and religion [15]. Thus, the Royal Judges heard cases that had previously been the responsibility of the deputies, town courts, workshops, local judges, relatives and even cases brought by victims. The courts in the Middle Ages were characterised by a period of arbitrariness, as judges allowed themselves deliberate intimidation and the adoption of severe punishments, sometimes disproportionate to the committed illegal act.

In France, for example, during the Middle Ages, there was a transition from barbaric customs to the territorial legal system of individual regions. Starting from the 12th century, royal courts became important in resolving disputes. With each subsequent year, the courts become an increasingly authoritative and established institution, since representatives of every social class, starting from the clergy and ending with the townspeople, had their own court. Peasants were judged by feudal lords or judges elected by them.

The study of the formation of the judiciary is impossible without clarifying the essence and purpose of the reform of 1864, which was of great importance for the Ukrainian judiciary. During the implementation of the judicial reform of 1864, a prominent place was given to the formation of the judiciary. In particular, this reform should address the following issues: taking office and covering the procedure; establishing the legal status of a judge; guarantees of judicial activity, etc. Thus, four methods and approaches to holding the position of a judge were distinguished:

– election of a judge to the position by the judicial body which has a vacancy;

– election of judges by the population or their representatives;

– a judge was appointed by the government;

– election of a judge by drawing lots from among the persons who met the established requirements.

The Statute of the establishment of judicial institutions[1] stated that the chairmen, members of the court chambers, heads of existing departments and others were appointed to positions by the king.

***3. Creation and functioning of the judicial system on the territory of Ukraine.*** Regarding the establishment of courts and the formation of the judicial system in Ukraine, it should be noted that dispute resolution existed in Kyivan Rus. For a long time, the courts and the judicial system were under the rule of Poland, the Russian Empire, Romania, the Soviet Union, and the Austro-Hungarian Empire. A large-scale attempt to form an independent judicial system on the territory of Ukraine took place in 1918-1921. During these years, it was not possible to form an independent and autonomous judicial system, as in the early 1920s the formation of the Soviet judicial system began[2].

In the early 1980s, Ukraine had election of judges, and the selected judges were directly accountable to the population. However, already in the late 80s, electability was replaced by the election and appointment of judges by representative local authorities, which as a result led to the dependence of judges on the decisions of these bodies. Today, the procedure of formthe ation of the judiciary in Ukraine is totally different. The process of election and appointment of judges may involve the President of Ukraine, the High Council of Justice, the Verkhovna Rada of Ukraine, the High Qualification Commission of Judges, and the Verkhovna Rada Committee on Legal Policy[3].

The Declaration of State Sovereignty of Ukraine adopted in 1990 initiated the creation of a new system and procedure for the formation of the judiciary[4]. Also, the adoption of the Act of Independence of Ukraine in 1991 implemented the provisions enshrined in the Declaration of State Sovereignty of Ukraine[5]. After the adoption of the above acts, the formation of national public authorities began, including the creation and establishment of the justice system.

[1]Declaration of State Sovereignty of Ukraine No. 55-XII. (1990, July). Retrieved from https://zakon.rada.gov.ua/laws/show/55-12#Text.
[2]Decree Verkhovna Rada of the Ukrainian RSR No. 1427-XII "Act of Independence of Ukraine". (1991, August). Retrieved from https://zakon.rada.gov.ua/laws/show/1427-12#Text.
[3]Law of Ukraine No. 1402-VIII "On the Judiciary and the Status of Judges". (2016, June). Retrieved from https://zakon.rada.gov.ua/laws/show/1402-19#Text.
[4]Declaration of State Sovereignty of Ukraine No. 55-XII, op. cit.
[5]Decree Verkhovna Rada of the Ukrainian RSR No. 1427-XII, op. cit.

After the declaration of independence, Ukraine inherited an understanding of the judiciary from the Soviet Union. The ideology of the judicial system of the Soviet times was the limitlessness of Soviet power, in which the court acted only as a tool for the implementation of socialist national power. A judge, holding a position in the Soviet Union, had to be a member of the Communist Party. Before the proclamation of independence of Ukraine, the judicial system of the Ukrainian SSR consisted of: the Supreme Court of the Ukrainian SSR, Kyiv City Court, judges of the regions and city people's courts [16].

After gaining independence, Ukraine initiated the operation of three independent branches of power: legislative, executive, and judicial. The process of reforming the judicial system has been launched. The concept of improving the judicial system was approved by the president of Ukraine[1] In 2006, it provided for three areas of reform, namely:

– improving the forms of legal proceedings and the entire judicial system;

– law enforcement reform;

– updating the procedural legislation.

The relevant reforms took place in several stages: 1) amendments to regulatory legal acts; 2) creation of new judicial bodies, namely administrative courts; 3) improvement of the judiciary and conducting a study of the effectiveness of judicial reform. During the 30 years of independence of Ukraine, an extensive regulatory framework has been created regarding the activities of courts and the status of judges and the functioning of the judicial system as a whole, along with the constitutional framework for appeal and cassation proceedings [2].

The establishment and application of a certain model of formation of the judiciary require research of legislation and legal thought After gaining independence, Ukraine began the process of searching for a model of judicial power formation and effective administration of justice. This process continues today through the improvement of the legislative framework, the implementation of a number of reforms, the deepening of legal thought and the implementation of modern international experience[2].

The choice of a moderate model of judicial office, namely the election of judges by the public, is not effective, as the professional skills and experience of the candidate are not fully assessed. Another reason for the ineffectiveness of this model is the lack of accountability to the public, as there is no defined procedure and responsibility for the lack of reporting on the performance of judges. Also, there is no clear procedure for exercising public control over the activities of judges.

The Council of Europe expert Rosa H.M. Jansen addressed this issue [17], noting that in general, the election of judges is not common in European systems. She is not keen on the procedure of electing judges because there is a very high risk of certain politicians influencing this process. Also, according to H.M. Jansen [17], it is not recommended to use the system of election of judges for the formation of the judiciary in Ukraine, as the country is in the process of establishing democracy. Thus, this model of formation of the judiciary is ineffective for the judicial system of Ukraine, since the self-nomination of judges and their election by citizens will not guarantee independence, professionalism, and qualification of the court staff.

It is not common in the world, but it is used in European countries, the model of forming the judicial Corps, in which judges themselves elect judges to the relevant courts. The main idea of allowing judges to appoint judges is that they become responsible for the authority of the judiciary, the legality of their decisions and the effectiveness of the judicial system as a whole.

***4. Reforming the judicial system in Ukraine and the institute of judicial selection.*** After choosing the European integration course, Ukraine initiated a number of reforms, including in the judicial sphere [18]. The reforms covered not only the judicial system and the administration of justice in Ukraine but also the appointment of judges. The implementation of judicial reform in Ukraine is primarily due to the lack of independence of judges, outside influence on judges, the issuance of clearly illegal decisions by some judges, the imperfect procedure for the formation of the judiciary, the unsatisfactory level of professionalism of judges, non-enforcement of court decisions and much more [19].

However, despite the existing problems in the judicial system, the protection of violated rights continues to be carried out incessantly. The above is confirmed by the summary statistics provided on the website of the judiciary of Ukraine for all courts of different instances [20].

The Decree of the President of Ukraine No. 231/2021 of 06/11/2021 approved the "Strategy for the Development of the Justice System and Constitutional Judiciary for 2021-2023"[3] (hereinafter – the Strategy), which defines the main steps towards the development and improvement of the judicial system and the recruitment procedure in accordance with the best international standards. The main goal of the Strategy[4] is to further improve the judiciary and the judicial recruitment process to establish and guarantee the rule of law and human rights. The Strategy[5] also outlines a number of key issues, the solution of which will increase

[1]Decree of the President of Ukraine No. 361/2006 "On the Concept of Improving the Judiciary to Establish a Fair Court in Ukraine in Accordance with European Standards". (2006, May). Retrieved from https://zakon.rada.gov.ua/laws/show/361/2006#Text.

[2]Law of Ukraine No. 3911-XII "On Qualification Commissions, Qualification Attestation and Disciplinary Responsibility of Judges of Courts of Ukraine". (1994, June). Retrieved from https://zakon.rada.gov.ua/laws/show/3911-12#Text.

[3]Decree of the President of Ukraine No. 231/2021 "On the Strategy for the Development of the Justice System and Constitutional Judiciary for 2021-2023". (2021, June). Retrieved from https://zakon.rada.gov.ua/laws/show/231/2021#Text.

[4]*Ibidem*, 2021.

[5]*Ibidem*, 2021.

the efficiency of the justice system, including the workload of judges and their shortage in the courts of first instance and appellate courts, which in turn leads to untimely and inefficient consideration of cases; dishonesty of judges and the existence of corruption in the judiciary of various instances; complicated procedure for selecting judges and filling a vacancy; incomplete reform of the prosecution bodies; imperfect and inefficient system of local courts; low level of public trust in the courts; etc.

To improve the efficiency and effectiveness of the work of the High Qualification Commission of Judges and the High Council of Justice, a number of legal acts were amended and finalised, in particular, the Law of Ukraine On Amendments to the Law of Ukraine "On the Judicial System and Status of Judges" was adopted[1]. One of the changes contained in the abovementioned Law was the new requirement for the election of the members of the Commission by means of a competition to be held with the participation of international experts . The changes also affected the high justice, namely, the Ethics Council provides for the implementation of an assessment by members of the High Council of Justice of compliance with professional ethics and integrity criteria[2].

In 2020, the Verkhovna Rada of Ukraine adopted Resolution No. 807-IX "On the Formation and Liquidation of Districts"[3]. According to this resolution, there was a change in the administrative-territorial structure of Ukraine, namely, 136 of the 490 existing districts were formed[4]. As a result of these changes, the issue of changing the existing system and network of courts, in particular local ones, has become necessary and urgent.

To resolve the issue of territorial jurisdiction of local courts and to adjust the number of courts to the number of existing districts, the Law of Ukraine on Amendments to the Law of Ukraine "On the Judicial System and Status of Judges" was adopted[5], which was to be in force until the adoption of a normative act regulating the change of the system of local courts in Ukraine in connection with the formation (liquidation) of districts. According to the provisions of the above-mentioned Law, local courts can exercise their powers and perform the functions assigned to them within the previously existing jurisdiction, but not later than January 1, 2022. The Law of Ukraine On Amendments to the Law of Ukraine "On the Judicial System and Status of Judges"[6] regarding the territorial jurisdiction of local courts in Ukraine until the adoption of the law on changing the system of local courts related to the formation (liquidation) of districts[7] stipulated that the term of local courts within the existing territorial jurisdiction was extended for 1 year. The High Council of Justice provided clarification on the continuation of the current territorial jurisdiction of local courts, which states that the courts of general jurisdiction were located mainly in district centres, but after the changes in the administrative-territorial structure of Ukraine, the district centres became those settlements in which, for the most part, there were no judicial bodies[8]. This in turn led to the need to create new courts or relocate existing ones. Therefore, as the work on the process of creating a new network of courts continues, until its approval by January 1, 2023, the territorial jurisdiction existing before the adoption by the Parliament of the resolution on the formation and liquidation of districts will remain in force [21].

***5. The process and features of the formation of the judiciary in Ukraine.*** With regard to the system and process of formation of the judiciary in Ukraine at the present stage, the following should be noted. The judicial system of Ukraine consists of: local courts; courts of appeal; the Supreme Court (the highest judicial body) and higher specialised courts[9]. Each person who has expressed a desire to become a judge of one of these courts is subject to certain requirements.

The Law of Ukraine "On the Judicial System and Status of Judges"[10] stipulates that a person wishing to take up a vacant position of a judge must meet the following requirements: to have Ukrainian citizenship; to be proficient in the state language; to be of appropriate age; to have a legal education; to have experience in the

[1]Law of Ukraine 1402-VIII "On the Judiciary and the Status of Judges". (2016, August). Retrieved from https://zakon.rada.gov.ua/laws/show/1402-19#Text.
[2]Law of Ukraine No. 1629-IX "On Amendments to the Law of Ukraine 'On the Judiciary and the Status of Judges' and Some Laws of Ukraine on the Resumption of the High Qualifications Commission of Judges of Ukraine". (2021, July). Retrieved from https://zakon.rada.gov.ua/laws/show/1629-20#Text.
[3]Decree Verkhovna Rada of Ukraine No. 807-IX "On the Formation and Liquidation of Districts". (2020, July). Retrieved from https://zakon.rada.gov.ua/laws/show/807-20#Text.
[4]*Ibidem*, 2020.
[5]Draft Law No. 7565 "On Amendments to the Law of Ukraine 'On the Judiciary and the Status of Judges' on Territorial Jurisdiction of Local Courts on the Territory of Ukraine Prior to the Adoption of the Law on Changing the System of Local Courts on the Territory of Ukraine in Connection with Liquidation". (2020, August). Retrieved from http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=69731.
[6]*Ibidem*, 2020.
[7]Law of Ukraine 950-IX "On Amendments to the Law of Ukraine 'On Judiciary and Status of Judges' on Territorial Jurisdiction of Local Courts in Ukraine. Prior to Adoption of the Law on Changing the System of Local Courts in Ukraine in Connection with the Formation of (Liquidation) Districts". (2020, November). Retrieved from https://www.rada.gov.ua/news/Novyny/216383.html.
[8]Law of Ukraine No. 1635-IX "On Amendments to Certain Legislative Acts of Ukraine Concerning the Procedure for Election (Appointment) to the Positions of Members of the High Council of Justice and Activities of Disciplinary Inspectors of the High Council of Justice". (2021, July). Retrieved from https://zakon.rada.gov.ua/laws/show/1635-20#Text.
[9]Law of Ukraine 1402-VIII, op. cit.
[10]*Ibidem*, 2016.

field of law; to be honest and competent. Along with the requirements for the position of a judge, the Law also specifies the grounds according to which a person cannot apply for the position, namely: the presence of an illness that prevents the exercise of powers; recognition of a candidate for the position of a judge as incapacitated or partially incapacitated; has an unexpunged criminal record; a person who was previously dismissed from the position of a judge for committing a disciplinary offence or a conviction against such a person has entered into force.

Regarding the requirements and procedure for the appointment of judges of various courts, it should be noted that the requirements for candidates for the position of judge in the judicial bodies of various courts are specified in the Law of Ukraine "On the Judicial System and Status of Judges"[1]. Thus, for example, a candidate for the position of a judge of the court of appeal must have at least 5 years of experience as a judge, have a degree or experience in scientific activity in the field of law, meet the general requirements for holding the position of a judge, have experience in advocacy, etc. Also, Ukraine has another independent judicial body – the Constitutional Court of Ukraine (hereinafter – the Constitutional Court). According to the Law of Ukraine "On the Constitutional Court of Ukraine"[2], a person wishing to become a judge of the Constitutional Court must be a citizen of Ukraine, be at least 40 years old, have 15 years of experience in the legal field, speak the state language, have a higher legal education and high moral qualities. The Constitutional Court consists of 18 judges elected by the President, the Congress of Judges of Ukraine, and the Verkhovna Rada of Ukraine. The selection for the position of a judge of the Constitutional Court, to be appointed by the President of Ukraine, is carried out by a competition commission. To participate in the competitive selection for the position of judge, a candidate wishing to enter this position must provide an application and the following documents: autobiography, motivation letter, documents confirming the experience of professional activity in the field of law, documents confirming the identity and citizenship of Ukraine, a copy of the diploma of higher legal education (with appendices), a declaration of the person, written consent to the processing of personal data, etc[3].

Thus, the appointment of a judge consists of several stages and contains a number of requirements, which allows for a more objective and efficient selection of independent and professional judges who will resolve court cases with maximum efficiency and in compliance with the law, protect and guarantee human rights and freedoms. At the beginning of 2020, Ukraine's courts of the first instance lacked approximately 1500 judges. Such a large number of vacant positions led to the overloading of judges, as there were too many cases per one servant of Themis, which in turn led to delays and deterioration of the quality of their consideration, and therefore failure to fully protect human rights. The lack of judges creates a catastrophic situation for the judicial system of Ukraine. Despite the sufficient number of candidates for the position of judge, the courts still remain understaffed. Thus, as early as in 2017, the selection of candidates for the position of judge began, dividing them into two categories. The first category of candidates consisted of assistant judges who passed the necessary tests and received recommendations from the High Qualification Commission of judges of Ukraine. However, the High Council of justice delayed the consideration of candidates, and in some cases even blocked them. The second category of candidates are lawyers who have practical experience in jurisprudence and who have passed all stages of the verification and were waiting for the results from the High Qualification Commission of Judges of Ukraine.

On August 29, 2019, the President of Ukraine submitted the Draft Law of Ukraine "On Amendments to Certain Laws of Ukraine on the Activities of Judicial Governance Bodies"[4] (Reg. No. 1008, hereinafter – Draft Law No. 1008) to the Verkhovna Rada of Ukraine This draft law proposed to improve the work of the High Qualification Commission of Judges of Ukraine and the High Council of Justice. Thus, it was proposed to approve a new procedure for the election and appointment of persons to vacant positions in these bodies. During the consideration of draft law No. 1008, a number of negative criticisms were expressed, in particular from national judicial authorities and international partners and experts[5]. However, already on October 16, 2019, the Verkhovna Rada of Ukraine adopted the Law of Ukraine "On Amendments to the Law of Ukraine "On the Judiciary and the Status of Judges" and some laws of Ukraine on the activities of judicial governance bodies"[6], which entered into force on 11/07/2019. Since that date, the powers of the members of the High Qualification Commission of Judges of Ukraine have been terminated and its new composition has not been appointed yet, which leads to the delay in the formation of the judiciary and the administration of quality justice. A crisis in the formation of courts, related to the implementation of judicial reform, was also present in 2012-2013 [5].

[1]Law of Ukraine 1402-VIII "On the Judiciary and the Status of Judges". (2016, August). Retrieved from https://zakon.rada.gov.ua/laws/show/1402-19#Text.
[2]Law of Ukraine No. 2136-VIII "On the Constitutional Court of Ukraine". (2017, April). Retrieved from https://zakon.rada.gov.ua/laws/show/2136-19#Text.
[3]*Ibidem*, 2017.
[4]Draft Law No. 1008 "On Amendments to Certain Laws of Ukraine Regarding the Activities of Judicial Governance Bodies". (2019, August). Retrieved from http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_2?pf3516=1008&skl=10.
[5]*Ibidem*, 2019.
[6]Law of Ukraine No. 193-IX "On Amendments to the Law of Ukraine 'On the Judiciary and the Status of Judges' and Some Laws of Ukraine Regarding the Activities of Judicial Governance Bodies". (2019, October). Retrieved from https://zakon.rada.gov.ua/laws/show/193-20#Text.

***6. International experience in the formation of the judiciary.*** Ukraine has chosen the path to European integration, and therefore it is also important to clarify and establish the specific features of the formation of the judiciary in the leading countries of the world, especially the European Union (hereinafter – the EU). According to M. Bobek [22]: "In recent years and even decades, the judicial systems of European countries have changed dramatically, in particular, the ways of selecting judges to the European Court of Human Rights and the Court of Justice of the European Union". The constituent documents of the European Union established the "Court of Justice of the European Union", which consolidates the EU judicial system and includes a number of judicial bodies, namely: General Court, Court of Justice and specialized judicial chambers [23]. Often, the totality of EU judicial bodies is referred to as the "Court of Justice of the European Union". At the same time, there is no specific hierarchy, and each judicial body is equal and independent. The functioning of the EU judicial bodies and the formation of the judiciary are governed by the provisions of the EU founding documents, the EU Charter, the Rules of the General Court, and the Court of Justice.

Effective recruitment of judges and raising the level of qualification and professionalism of judges requires the study of international experience in the formation of the judiciary. In European countries, the practice of electing judges is not common, with Switzerland being an exception. Thus, in Switzerland, each canton has its own judicial system, which allows for the existence of its own procedures for the election of judges. At the cantonal level, judges are elected by popular vote with the right to re-election or appointed by the supreme court or parliament. Judges of the Federal Criminal Court, the Federal Patent Court, and the Federal Administrative Court are elected by the existing Federal Assembly [3]. The procedure for electing judges is also typical for Japan and the United States of America.

There are views among scholars that a candidate for the position of a judge should not only have a sufficient professional level but also have moral and psychological qualities. A. Martsinkevych [24] spoke on this issue, noting that the existing domestic system of formation of the judiciary should provide not only the necessary prerequisites for the appointment of the most qualified lawyers with a certain life experience and age but also persons with high moral qualities, since in Ukraine, at present, the business qualities of persons for the position of judge, their mental characteristics, behaviour, communication and organisational skills are not fully studied and investigated.

In *Austria*, a person who is a citizen of the country, has full legal capacity and impeccable reputation, higher legal education, i.e., has completed a full law course at the university and received a diploma, has practical judicial experience, and has received a characterization from three practising judges can hold the position of a judge.

*Germany* is considered to be one of the countries where the independence of judges and the rule of law are respected at the highest level. Thus, there are 16 federal states electing judges [25]. As for the appointment of federal judges, the German constitution establishes the principle of "selecting the best candidate"[1]. There are five major federal courts in Germany: The Federal Social Court, the Federal Supreme Court, the Administrative Court, the Federal Labour Court and the Financial Court, whose judges are selected and appointed by the Judicial Selection Committee. This committee consists of 32 members, and judges are appointed by secret ballot by a majority vote. The selection committee of judges consists of 16 experts appointed by the Bundestag and 16 ministers of Justice [26].

However, the formation of the judiciary in Germany is also criticised. The process of selecting judges for the Federal Constitutional Court receives the most criticism. Judges of the Federal Constitutional Court are elected by a body of 12 deputies. The process of electing these judges is non-public, it is not supported not only by citizens and lawyers but also by the judges of the Federal Constitutional Court themselves, noting that "this rule is rightly called unconstitutional in much of the professional literature" [25]. In 2012, the president of the Bundestag noted that he considers it strange that the requirements for judges of the Constitutional Court and their selection process are lower than in the case of, for example, the election of a commissioner for the protection of personal data [26].

The Constitution of the *French Republic*[2] states that "the judiciary must remain independent to ensure respect for the freedoms as enshrined in the preamble to the Constitution[3] of 1946 and in the Declaration of Human Rights". The training of qualified specialists in the judicial sphere in France is a guarantee of the independence of the judicial system and falls within the competence of the National School of Magistracy (hereinafter – the School), the main purpose of which is to train judges [27]. Initial training involves two stages and a total of 31 months:

– 24 months are allocated for theoretical training and internship in a court, gendarmerie or law office;

– the rest of the time is devoted to theoretical training in Bordeaux, and internship (5 months) [28].

Only persons who have studied at the National School of Magistracy and have obtained a diploma there can hold the position of a judge in France. However, persons who already have higher education in the field of law and have received legal training, or certain

[1]Basic Law of the Federal Republic of Germany. (1949, May). Retrieved from http://www.gesetze-im-internet.de/gg/BJNR000010949.html.
[2]Constitution of the French Republic. (1958, May). Retrieved from https://www.constituteproject.org/constitution/France_2008.pdf?lang=en.
[3]*Ibidem*, 1958.

categories of civil servants are eligible to study at the National School of Magistracy. The professional level of judges is improved through their practical and theoretical training. One of the features of training judges is also the historically established interaction of judicial and law enforcement agencies. In particular, educational programmes for improving the professional level of judges are also the same for prosecutors. Regarding such joint educational programs, the researcher of the international experience of judicial training S.V. Stepanov [29] noted that the advanced training of judges and their professional development should take place independently and without any influence from public authorities.

The experience of advanced training of judges in the *Republic of Poland* is also quite interesting. In Poland, professional training of persons willing to fill the vacancy of a judge is carried out by the National School of Judiciary and Prosecutor's Office. The training of judicial candidates consists of two stages: general and professional training. The general training of future judges involves attending lectures, practical classes for 12 months along with internships in the judiciary. In turn, the professional training lasts 48 months. Only after passing all stages of training and verification, a candidate for the position of a judge can apply for a vacant position of a judge.

In *Belgium*, judges are appointed after completing a judicial training program or are appointed directly to a permanent position. They are appointed by The Crown (The King and his ministers) indefinitely until retirement, based on a reasoned request from the 44-member High Council of Justice. The creation of this council began in 2000, partly due to the politicisation of the appointment process. According to the GRECO report on the assessment of the judiciary in Belgium [11], apart from the initial recruitment, appointments to responsible judicial positions are still seen primarily as a result of the ability to develop connections and the right contacts rather than merit. Therefore, it can be stated that despite the presence of the High Council of Justice, which is involved in the process of appointment of judges, there is also a certain political influence on the formation of the judiciary.

In *Great Britain*, which has left the European Union in 2020, judges are appointed to the post. There are statutory qualification criteria for judges, according to which the 15-member Judicial Appointment Commission selects candidates for the position of judge. The Lord Chancellor, a member of the government, has the right to appoint judges. They can either approve the candidacy of the elected person or reject them if the candidate is not suitable for the position. Certain high-ranking appointments are made by the Queen on the advice of the Lord Chancellor or prime minister [11].

Approaches to the formation of the judiciary in the *United States of America* (hereinafter – the USA) are fundamentally different from the European experience. A special feature of the US judicial system is manifested in the fact that the judicial systems of 50 American states and autonomies, as well as the federal judicial system and the judicial system of the Federal District of Columbia, exist and function effectively at the same time [15]. To become a judge in the United States, you must be 21 years old, have a law degree, speak English, and reside in one of these states for more than a year [30]. The difference between the formation of the judiciary in the USA and European countries is that a candidate for the position of a judge in America, despite having no work experience, can get a position of a judge in any court. Therefore, it all depends on qualifications and mental abilities, because even without practical experience one can get a position of a judge in the highest judicial body.

According to K.F. Gutsenko [31], a candidate for the position of a federal court judge must necessarily be an outstanding and qualified lawyer, and his/her professional and personal reputation must be impeccable. Also, the candidate for the position of federal court judge is subject to inspection by the Federal Bureau of Investigation. D.H. Armstead [32], a former professor at the U.S. Naval War College, argues that even with a federal system, each state has autonomy in the formation of the judiciary, for example, in South Carolina judges are appointed by the executive branch.

***7. The process of selection of judges and prosecutors.*** To highlight similarities and differences in the formation of the judicial and prosecutorial corps, this study compares the process of selecting candidates for the position of judge and prosecutor. The procedure for holding the position of prosecutor is regulated by the Law of Ukraine "On Prosecutor's Office"[1] and other legal acts. According to the Law of Ukraine "On Prosecutor's Office"[2], the prosecution system consists of the Prosecutor General's Office, regional prosecutor's offices, district prosecutor's offices and the Specialised Anti-Corruption Prosecutor's Office. To fill a vacant position in each of the above-mentioned prosecutor's offices, a separate procedure is provided, and certain requirements are put forward:

– a person who is a citizen of Ukraine, has a higher legal education, speaks the state language and has at least 5 years of experience in the field of law may be elected as a prosecutor of the Prosecutor General's Office;

– a person who is a citizen of Ukraine, has at least 2 years of experience in the legal field, is proficient in the state language, and also has a higher legal education can be elected a prosecutor of the district prosecutor's office;

– a person who has a higher legal education, is a citizen of Ukraine, has at least 3 years of work experience in the field of law, and also speaks the state language can become a prosecutor of the regional prosecutor's office[3].

– a person who has a higher legal education, at least 5 years of work experience and is proficient in the

[1]Law of Ukraine No. 1697-VII "On the Prosecutor's Office". (2015, May). Retrieved from https://zakon.rada.gov.ua/laws/show/1697-18#Text.
[2]*Ibidem*, 2015.
[3]*Ibidem*, 2015.

state language can become a prosecutor of a specialized anti-corruption prosecutor's office.

As for the experience of foreign countries in the selection, training and appointment of prosecutors, the experience of such European countries as Germany, France and Austria has been analysed. In *Germany*, the prosecutor's office functions under the judicial authorities. In the Federal Court, the functions of the prosecutor's office and the activities of the prosecutor are performed by the Prosecutor General of the Federation and subordinate prosecutors. In the Supreme Courts of the Länder, the functions of the prosecutor's office are performed by the Prosecutor General and his subordinate prosecutors, and in the courts of the first instance – through the Chief Prosecutor and his subordinate prosecutors [33]. The Federal Attorney General is appointed by the President of Germany and the Bundestag gives its consent to the appointment. Prosecutors of higher land courts and District Courts report to the Ministry of Justice of each land [33]. One of the main requirements for a person wishing to hold the position of a prosecutor in Germany is the mandatory presence of German citizenship, as well as higher education with a period of study of at least 4 years. A candidate for the position of the prosecutor must pass two state exams. The candidate's inspection procedure and direct interview are held in a rather harsh and strict form to determine the level of confidence, stress resistance and commitment to perform the powers provided for the position of the prosecutor. Also, between passing the exams, future prosecutors undergo a two-year internship in a court or in a similar instance.

In *France*, where the prosecutor's office is part of the Ministry of Justice, the officials of the prosecution authorities work closely with the judicial authorities (both referred to as magistrates. The training of judges and prosecutors in France is similar, and therefore the practice of transferring prosecutors to the position of Judge and vice versa is well established. The opportunity and practice of moving from one position to another is a source of enriching professional experience. The training of magistrates (prosecutors and judges) in France is carried out by the National School of Magistracy. A candidate for the position of the prosecutor must meet the following requirements: have French citizenship, higher education, a positive moral characteristic, comply with the duties established by the National Service Code, and be physically fit [34]. Prosecutors in France are appointed by Presidential Decree on the recommendation of the Higher Judicial Council.

In *Austria*, the prosecutor's office is institutionally included in the Ministry of Justice but operates within the judicial system. Prosecutors and judges receive the same basic education there. After graduation, they receive a master's or doctoral degree and undergo an internship in the judiciary. Only after the internship and considering the opinion of the judge with whom young specialists trained, their recommendations, passing several oral and written exams and passing a psychological test, the issue of their future specialisation is decided. To be appointed as a prosecutor, a candidate must be a judge or have at least one year of judicial experience or have completed a "one-year practice as a prosecutor" [34]. In case of a vacant position, the appointment is made by the Federal Minister of Justice.

Comparing the process and features of the formation of the judicial and prosecutorial corps, the following can be noted. The judicial system of Ukraine consists of courts of general jurisdiction of different levels and areas of specialisation and the Constitutional Court of Ukraine, equally as the prosecution bodies of Ukraine constitute a certain hierarchical system. At the same time, certain requirements are put forward for each candidate for the position of judge or prosecutor of a particular court or prosecutor's office, and the higher the level of the court or prosecutor's office in these systems, the more serious the requirements for candidates for positions in them. Regarding the similarity in the selection process for the position of judge and prosecutor in European countries, it can be noted that in almost all European countries, persons wishing to take these positions undergo training, practice and internship in certain educational institutions and bodies.

***8. Courts staffing issue in Ukraine.*** Attention should be paid to some problems of the judicial system of Ukraine, especially those related to the formation of the judiciary.

One of the main problems is understaffing of courts. As already noted, judicial reform continues in Ukraine, including the reform and improvement of the bodies responsible for the selection process for the position of judges. The ineffective election of judges and the lack of courts in Ukraine, especially courts of first instance, leads to a crisis in the judicial system and ineffective protection of violated rights. The delay in the procedure of renewal of the High Council of Justice and the High Qualification Commission of Judges of Ukraine in turn entails the failure to fill vacant judicial positions and, accordingly, negative consequences for the state and the population, as the society has repeatedly insisted on an effective personnel policy and quality filling of courts not only of the first instance but also of all other instances.

Another significant problem is the public distrust of judges, the main reasons for which are corruption, dependence on politicians and low professional level of the number of judges. Distrust in the judiciary is to some extent driven by the fact that the population trusts other public authorities more This approach is radically different from European countries, where the judiciary has more authority than other state bodies. The solution to this problem could be an open, efficient, professional and at the same time rather rapid formation of the judiciary by filling all available vacancies.

The dependence of judges on other institutions or bodies remains a significant problem. In European countries, such dependence is absent or is at a very low level. Thus, in Germany and Denmark, political or other influence on the judiciary is minimised, and the independence and integrity of judges are at a high level. Therefore, the experience of these countries in this respect will be relevant for Ukraine. According to the United States Institute of Peace [35]: "Judges who are dependent on government agencies or others cannot make neutral, quality decisions and thus undermine the legitimacy of the law and the judicial system as a whole".

## Conclusions

The institution of judicial selection and formation of the judiciary is of great importance for implementing and strengthening the key principles of the democratic world – the rule of law, legality, access to justice, and fair resolution of judicial disputes. The notion of "formation of the judiciary" should be understood as the process of selection to the judiciary and the mechanisms for acquiring and terminating judges' powers.

The article examines the history of the formation and development of the judicial system in the world, starting from Ancient Egypt. The judicial system on the territory of Ukraine has been forming over a long period of time, as the country was part of different empires and states throughout its history. After Ukraine gained independence, it started building an independent and effective judicial system, which is currently formed by the courts of general jurisdiction and the Constitutional Court of Ukraine. Courts of general jurisdiction consist of local courts, courts of appeal and the Supreme Court. There are also higher specialised courts in the judicial system of Ukraine to consider certain categories of cases.

The paper outlines the general requirements for candidates for the position of judge, namely: citizenship of Ukraine, reaching a certain age, higher legal education, professional experience in the field of law, competence, integrity, proficiency in the state language, legal capacity, absence of an unexpunged criminal record. However, the requirements for courts of different levels and specialisations differ slightly in terms of age and work experience. Domestic legislation provides for a complex and multi-stage procedure for selecting candidates for the position of judge, but it also does not ensure a high level of professionalism of judges and public confidence in them.

There are several models of the formation of the judiciary, one of which is the election of judges. It is shown that such a model is not effective, since it does not fully assess the professional skills and experience of candidates for the position of judge, elected judges are influenced, and therefore their activities are not always effective.

The article analyses the international experience of selecting, appointing, and training judges on the example of leading European countries, Great Britain, and the United States. In the context of continuing the judicial reform in Ukraine, it is necessary to consider some positive aspects of foreign experience.

The study compares different approaches to forming judicial and prosecutorial corps, identifying their common features and differences. It was found that the experience of selection and training of future prosecutors in some countries of the European Union can be useful when considering the issue of improving the system of selection and training of prosecutors in Ukraine.

The key issues of the judicial system of Ukraine, primarily those related to the formation of the judiciary, are outlined, and possible solutions are suggested.

Prospects for further research in this area are an in-depth study of the best international experience to promote democratic values in Ukraine and its accession to the European Union.

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# Особливості формування суддівського корпусу: національний і міжнародний досвід

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**Анотація**
Актуальність статті полягає в необхідності проведення порівняльного дослідження процесу й особливостей формування суддівського корпусу в Україні та в провідних країнах світу заради з'ясування ефективності чинної національної судової системи та її удосконалення в майбутньому. Метою дослідження є проведення аналізу особливостей процедури формування суддівського корпусу та здійснення добору на посаду судді в Україні, країнах Європи, а також у Великій Британії та США. Основу методологічної бази, що була використана для дослідження зазначеного матеріалу, становлять методи дедукції та індукції, системний, логічний, діалектичний, формально-юридичний, порівняльно-правовий, історичний, системно-структурний, статистичний, соціологічний методи. У роботі досліджено історію створення перших судів і становлення судової системи незалежної України; запропоновано визначення низки понять, серед яких «суддя», «суддівський корпус», «формування суддівського корпусу»; встановлено етапи здійснення добору на посаду судді та розкрито вимоги до суддів у різні судові органи; здійснено порівняння добору на посаду судді та прокурора; досліджено міжнародний досвід формування суддівського корпусу у Швейцарії, Австрії, Франції, Бельгії, Німеччині, Польщі, Великій Британії, США; з'ясовано проблеми, що виникають у судовій системі України, передусім під час заповнення вакантних суддівських посад. Результати дослідження, отримані в поєднанні з вивченням прогресивної світової та вітчизняної практики формування суддівського корпусу, можуть бути цінними й корисними як для осіб, які бажають стати суддями, так і для всіх практичних працівників системи правосуддя

**Ключові слова:** суддя; кандидат на посаду судді; порядок добору суддів; реформування; вимоги до суддів; підготовка суддів

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# Forensic support of the prosecutor's activities in criminal proceedings: concept, content, tasks

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**Abstract**
Increasing the effectiveness of the prosecutor's activity in criminal proceedings is an extremely urgent task, taking into account the changes taking place in the legal life of the state, the development of scientific and technical progress, and the processes of reforming law enforcement agencies. There are also negative circumstances that today require rethinking and adapting the activities of the prosecutor's office to new, extreme conditions, namely the need to counter the armed aggression of the Russian Federation. These and other circumstances determine the formation of updated principles of the prosecutor's activity. Purpose of the article is to highlight the theoretical foundations and form practical recommendations regarding the forensic support of the prosecutor's activities in criminal proceedings. By using the method of dialectics, special legal methods, and processing the source base, it was established that the goal of forensic support of the prosecutor's activities is to achieve the tasks defined in Art. 2 of the Criminal Procedure Code of Ukraine. The realization of this goal depends on the solution of specific tasks, which consist in the development of new and improvement of existing technical means, methods and techniques for working with forensically significant information; building systems of tactical techniques; the formation of organizational foundations and the development of methodological recommendations for the implementation of criminal proceedings regarding various types of criminal offenses. Forensic support of the prosecutor's activities is implemented in accordance with the technical, tactical, and methodical forensic direction, techniques, means, and methods developed by forensics are used

**Keywords:**
forensics; law enforcement agencies; investigation; forensic recommendation; forensic innovation

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## Introduction

The concept of "provision", based on the interpretation of its content, is to create the conditions of activity, bringing them to a ready state to solve the tasks set. It is criminalistics that offers practitioners the necessary "tools of work" in such conditions. Therefore, it is possible to argue that forensics ensures law enforcement activities, and specifically for the purpose of investigating criminal offences.

Given the changes that are taking place in the legal sphere in Ukraine, the development of scientific and technological progress, the processes of reforming the activities of law enforcement agencies in accordance with the best European and international standards – the issue of improving the efficiency of the prosecutor in criminal proceedings is extremely relevant. There are negative circumstances that today require rethinking and adapting the activities of the prosecutor's office to new, extreme conditions - namely, the need to counteract the armed aggression of the Russian Federation, in connection with the introduction of martial law in Ukraine from February 24, 2022[1], the commission of war crimes against Ukraine and its citizens.

Thus, forensic support is implemented through the use of forensic tools in various forms of expression, is the subject of research in a number of scientific papers and practical manuals. Regarding the forensic support of the prosecutor's activities in criminal proceedings, it is worth highlighting its technical-forensic, tactical-forensic and methodological-forensic direction of implementation [1, p. 46]. Besides, it is necessary to emphasise the importance of forming complex forensic methods of investigation of criminal offences, with the definition of powers, tasks and functions of the prosecutor.

Apart from traditional elements, most modern forensic techniques should incorporate international cooperation of law enforcement agencies and international organisations during the investigation. International cooperation is the activity of competent entities, conducted in accordance with the requirements of the law, coordinated with the competent authorities and officials of foreign states, including obtaining and providing assistance in the pre-trial investigation and judicial proceedings for the lawful and effective examination of criminal cases and the adoption of a just decision. Its content consists in combining the efforts of various state and law enforcement agencies, international and public organisations, individual citizens and their associations in identifying, investigating and preventing criminal offences [2]. At the same time, the actions of the involved entities should be coordinated, and each participant performs those tasks that are within their area of responsibility.

The tasks of legal, forensic support of the prosecutor's activity on the investigation of international crimes committed in Ukraine as a result of the armed aggression of the Russian Federation and the collection of evidence by forensic means, methods, and techniques for the consideration of cases in the International Criminal Court are particularly acute now.

The efforts of state and law enforcement agencies of Ukraine are aimed at ensuring the achievement of the tasks of criminal proceedings in relation to international crimes committed on the territory of Ukraine. Thus, back in September 2015, Ukraine submitted to the International Criminal Court a statement by which it recognised the jurisdiction of the Court over all crimes (primarily crimes against humanity and war crimes) committed on the territory of Ukraine since the beginning of the military aggression of the Russian Federation against Ukraine. This statement is not limited by any definite date [3, p. 10]. The Prosecutor General's Office of Ukraine has prepared procedural documents (protocols of procedural actions, expert opinions), which confirm the commission of crimes against humanity and war crimes by militants in Donbas and officials of the Russian Federation. These data should serve as evidence in the International Criminal Court [4]. The state of investigation and trial of criminal cases concerning these crimes, which were carried out by law enforcement agencies of Ukraine, is assessed [5, p. 10-11], which will be the subject of consideration by the International Criminal Court.

After February 24, 2022, cooperation between the Office of the Prosecutor General and the Prosecutor of the International Criminal Court acquired new tasks and forms of implementation. Measures aimed at conducting joint procedural actions and collecting evidence of the crimes of military aggression of the Russian Federation are underway [6]. Such activities take place in different regions of Ukraine. In particular, in May, the prosecutors of the Chernihiv Regional Prosecutor's Office together with the specialists of the French Gendarmerie conducted investigative actions at the facilities damaged and destroyed by the Russian occupiers in Chernihiv. The foreign team included explosives technicians, tracers, ballistics and a forensic medical expert [7]. The list of numerous examples of cooperation can be continued. There is a specially created by the International Criminal Court group consisting of investigators, experts and other specialists who collect evidence for the investigation of war crimes in Ukraine [8]. New challenges are faced by the prosecutor's forensic support in criminal proceedings – compliance of the applied means, methods and techniques with the best European and international standards. It is important that under such conditions forensic support meets the requirements of innovative development.

[1]Decree of the President of Ukraine No. 64/2022 "On the Introduction of Martial Law in Ukraine". (2022, February). Retrieved from https://www.president.gov.ua/documents/642022-41397.

Accordingly, the purpose of the study can be defined as the formation of the theoretical foundations of forensic support of the prosecutor's activity in criminal proceedings in modern conditions, characterisation of its concept, content, and tasks. The leading method in the study is dialectics, which is used both to understand phenomena, processes, objects, and their connections with the law enforcement activities of the prosecutor's office and other law enforcement agencies. Among the special research methods used are comparative legal, historical-legal, system-structural.

## Literature review

The developments of scientists, namely V.Y. Shepitko, V.O. Konovalova & V.A. Zhuravel [9] and the study of practical activity indicate that the subject of research of science is formed based on the study of the patterns of illegal, primarily criminal activity. Based on the learned patterns, forensic researchers in their works offer scientifically sound and practically tested tools. For instance, it concerns new research on relevant issues of forensic technology. Namely, the works devoted to laser scanning during investigative (search) actions and direct inspection of the scene are relevant. Thus, Yu.Yu. Orlov presented the subject of using laser scanning during the inspection of the scene [10], S.V. Danets detailed the application of this scientific technical means in the investigation of a road accident [11]. The suggestions of the authors expressed in new publications on forensic tactics are of particular interest. Thus, the application of tactical techniques based on the findings in psychology is reflected in the writings by F.M. Sokyran & M.F. Sokyran [12], the use of all sources (verbal and nonverbal) of information in the investigation of criminal offences was reflected in the research by V.V. Tishchenko & O.P. Vashchuk [13]. Among the new trends in the development of forensic methodology should be noted the study by V.A. Zhuravl [14], devoted to the formation of modern theoretical and methodological foundations of forensic methodology and research by Yu.M. Chornous [15] on topical issues of investigation of international crimes. Through the application of modern forensic tools, the evidence is provided and the objectives of criminal proceedings are achieved.

As noted by I. Koziakov [16], understanding of the patterns of processing forensically relevant information is a prerequisite for the effective work of the prosecutor in modern criminal proceedings.

Accordingly, the prosecutor, aside from the detective, investigator and other participants of criminal proceedings who perform law enforcement functions, is also required to master forensic knowledge. Forensic knowledge is currently undergoing development, changes and improvement related to the implementation of the adversarial principle in criminal proceedings, EU integration, and the introduction of international standards in criminal proceedings.

Forensic support itself, as Yu.M. Chornous points out, is a component of the terminological apparatus of forensic science, which requires the solution of a number of practical problems important for law enforcement and law enforcement activities [1, p. 40].

In modern context, researchers V.V. Hvozdiuk & Yu. Chornous [17], R.L. Stepaniuk [18], M.V. Shepitko & V.Yu. Shepitko [19] radically change approaches to all types of support for the activities of law enforcement agencies – legal, organisational, logistical, personnel. Equally important are changes in forensic support advanced based on the current needs of law enforcement considering the synthesis and integration of forensic knowledge. Thus, it is necessary to consider the principles of forensic support of the prosecutor's activity as one of the ways to improve the effectiveness of the tasks performed in law enforcement, and directly during criminal proceedings.

The institute of forensic support of investigation of criminal offences is investigated in the monographic work by Y.M. Chornous "forensic support of investigation of crimes" [20]. The issues of forensic support of the prosecutor's activity are reflected in the publications of I.M. Koziakov [21]. However, a comprehensive study of the forensic support of the prosecutor's activities in criminal proceedings in the scientific literature has not yet been conducted. Given that the effectiveness and efficiency of law enforcement activities depends on its basis, that is, the theoretical foundations, it is important to pay detailed attention to the concept, content, tasks of forensic support of the prosecutor's activities in criminal proceedings.

It is necessary to recognise the innovative nature of the science of forensics. V.M. Shevchuk [22, p. 148] argues that the main features of forensic innovation are the novelty of products (products) that are newly created, or newly applied, or improved; the latest technical, tactical, methodological and forensic tools are necessary and are used in practice; the latest technical, tactical, methodological and forensic tools are the result of research, forms of implementation (application) of such forensic tools are new products (products), technologies, services, solutions; the application of innovations is carried out by special subjects (investigator, judge, forensic specialist and others); the focus of innovative tools on the effective solution of forensic tasks, ensuring optimisation, improving the quality and effectiveness of law enforcement practice and further development of forensics.

## Materials and Methods

Monographs, scholarly articles, analytical reviews and statistical reports of state and law enforcement agencies, courts, international and non-governmental organisations were used as research materials.

The interpretation of the concept of "methodology" suggests that it is a conceptual statement of the purpose, content, methods of research, which in total provide the most objective, accurate, systematic information about the processes and phenomena covered

by the subject of research. The selected methodology is determined by the following factors: identifying ways of collecting information and gaining scientific knowledge that reflect the dynamic processes of forensic support of the prosecutor's activities in criminal proceedings; formation of an individual, unique research path, on which the tasks set should achieve the set research goal; purpose to ensure the comprehensiveness of the information on the activities of the prosecutor in criminal proceedings and the institute of forensic support in the science of forensic science and practice; support in introducing new information to the fund of the theory of criminal procedure and forensic sciences; creation of a system of scientific information based on objective facts, and the construction of a logical and analytical tool of scientific knowledge for further research in this area.

The dialectical method was selected as the leading method of scientific cognition of real phenomena, and their relevance to the practical activities of the prosecutor's office and other law enforcement agencies, individual authorised entities involved in practical law enforcement activities. Dialectical presentation of the subject and object of the study contributed to a clear definition of the system of general and special methods of cognition, a balanced ratio of which is designed to positively affect the results of the study.

The study employed logical methods and techniques, namely: analysis ( to dismember the object into components for the purpose of their independent study) and synthesis (to combine the previously separated parts of the object into a single whole); induction (in summarising the findings from the individual to the general) and deduction (to move from the general to the individual in the process of cognition); specification (to determine the essential links between the individual elements that make up the subject of the study), which were used in the context of the research problem.

To obtain scientifically substantiated results, and ensure the representativeness of the conclusions obtained, it is necessary to apply a system of empirical research methods, in particular: observation (study of practical law enforcement activities and features of its implementation); measurement (to compare static data and other quantitative characteristics within the subject of research); comparison (to identify common and distinctive features of the concepts and processes under study both at the theoretical and empirical levels).

Among the special research methods, the comparative legal method, system-structural method, forecasting method and heuristic method were mainly used.

The application of the comparative legal method allowed to determine the optimal forms of forensic support for the prosecutor's activity in criminal proceedings, to highlight the specific features of their implementation, to propose methods, means, and techniques of their practical realisation. To address these issues, the Ukrainian and foreign experience was studied. Application of the comparative legal method contributed to the effective development of the practical experience of law enforcement agencies of Ukraine, identification of problematic issues and formulation of proposals for their elimination, comparison of the practice of Ukrainian law enforcement agencies with the practice of foreign countries, trends in the development of legal systems of states and law enforcement within the democratic world community. This method is essential given the relevance of studying the principles of activity of international joint investigative teams, conducting joint investigations of Ukrainian and foreign law enforcement officers on the facts of war crimes committed by citizens of the Russian Federation on the territory of Ukraine against its citizens.

The application of the system-structural method proved to define the purpose of forensic support of the prosecutor's activities in criminal proceedings and to formulate the tasks necessary for their solution, in accordance with the technical-forensic, tactical-forensic and methodological-forensic direction of implementation, the means, methods and techniques used.

The forecasting method was used to identify promising areas for the development of forensic support of the prosecutor's activities in criminal proceedings. In particular, it is the emphasis on such a promising area as theoretical substantiation and practical implementation of the prosecutor's preventive activities to prevent the commission of criminal offences, the substantiation of the necessity of its forensic support. It is important to consider innovative areas of development and their implementation in the forensic activities of the prosecutor. Heuristic methods of scientific research were used during their selection, substantiation, and determination of the basis for implementation.

## Results and Discussion

According to the results of the conducted research, A.V. Lapkin [23, p. 985] notes that within the framework of the prosecutor's office accusatory model, the goal and objectives should be consistent with the goals of the criminal justice system. Based on a systematic analysis of the provisions of the legislation of Ukraine, and international standards, the goal of the prosecutor's office can be formulated as the protection of the individual, society and the state from criminal encroachments. Accordingly, the general anti-criminal orientation of the prosecutor's office's activities can be defined as countering criminal illegality. The following tasks of the prosecutor's office are aimed at achieving this goal: forming and ensuring the implementation of the state policy in countering criminal illegality; coordinating and directing the activities of criminal justice bodies and institutions, and other authorised entities for the prevention, detection and suppression of criminal offences, identifying the persons who committed them, applying coercive measures and executing criminal punishments; promoting

the resolution of criminal law conflicts by bringing those responsible for committing criminal offences to criminal responsibility or applying other measures of a criminal law nature to persons who are not subject to criminal liability; ensuring compensation for damage caused by criminal offences and overcoming their negative consequences through other means [23, p. 985].

The scientist quite rightly revealed the essence of a fairly wide range of the main tasks of the prosecutor's office at the present stage. Their implementation is associated primarily with the necessity of forensic support in various forms, with regard to the specifics of the activity. However, with regard to the subject of this study, it is necessary to focus on the process of criminal proceedings and highlight the specific features of forensic support of the prosecutor's activities under such conditions.

Given the importance of mastering forensic knowledge by all entities that implement law enforcement and law enforcement functions, there is a need for mastering such knowledge by a special subject – the prosecutor.

The ultimate goal of a comprehensive study of forensic support of the prosecutor's activities, according to I.M. Koziakov [21, p. 103-104], should be aimed at developing recommendations (scientific and practical advice) in the following areas: methods of organisation of pre-trial proceedings by the prosecutor; methods of procedural guidance of pre-trial investigation; methods of prosecutorial supervision over the observance of laws during the pre-trial investigation. The formation of such methods should be based on the general objective of the prosecutor's activity – to ensure the fulfilment of the tasks of criminal proceedings (Article 2 of the Criminal Procedure Code of Ukraine (CPC) and the effectiveness of pre-trial investigation (clause 8, part 2, Article 36 of the CPC of Ukraine[1]).

The key to the effective solution of these tasks is to apply the advances of scientific and technological progress and innovative trends in the development of forensic science.

Thus, among the new directions which deserve consideration is "digital forensics". According to G. Mamedov [24], digital forensics itself includes keyword search, analysis of electronic devices and even analysis of gaming systems, as there may also be important information for the case. Digital forensics tools significantly contribute to the inevitability of punishment in a situation of full-scale aggression, as evidenced by examples of practical activities.

The introduction of the institute of "digital forensics" involves the involvement of completely new practical tools, the introduction of information and communication technologies to detect, extract, research forensically relevant data in cyberspace or the use of tools, techniques and methods based on modern computer technology. These are common methods of criminal analysis and cyber intelligence. It is worth highlighting the method of social engineering [25, p. 38], which consists in studying and identifying the subject by studying the traces of his activity in cyberspace.

This list can be continued, so it is worth referring to its presentation in further studies. At the same time, these methods, means and techniques are already used in the practical activities of the prosecutor, and it is necessary to introduce a systemic approach to such practices and offer effective recommendations.

Thus, comparing the results of the study with the achievements of other authors (G. Mamedov [24], O. Kozitska [25]] it should be noted that, in general, agreeing with the authors on the broader application of modern digital technologies to address the challenges of law enforcement, the forensic support of the prosecutor's activities in criminal proceedings is considered more broadly, namely covering the areas of: technical and forensic support, including the latest technical means and their complexes for collecting evidentiary and orienting information during criminal proceedings; information and technical, namely information and reference, analytical support using modern digital technology, software, analytical resources.

Based on the results of theoretical and empirical research, the following areas of forensic support are identified, resulting in the establishment of a theoretical and legal basis and the implementation of practical activities of the prosecutor:

– forensic support of the prosecutor's activities in pre-trial criminal proceedings (performing the tasks of organisation and procedural guidance of pre-trial investigation);

– forensic support of the prosecutor's supervision over compliance with the law during the pre-trial investigation;

– forensic support of the prosecutor's activities in court proceedings;

– forensic support of the prosecutor's activity in special procedures of criminal proceedings.

Although a number of sources focus on the activities of the prosecutor during the pre-trial investigation [26], the scope of forensic support should be extended to the trial stage. It is during the trial that the final cognition of the event of a criminal offence takes place, and forensic methods, means, and techniques – that is, the entire "arsenal" of forensic support – are designed to contribute to the achievement of the objectives of criminal proceedings, which is possible only if the event of a criminal offence is finally known.

The implementation of forensic support is also influenced by the type (group) of criminal offences in respect of which criminal proceedings are carried out,

[1]Criminal Procedure Code of Ukraine. (2012, April). Retrieved from https://zakon.rada.gov.ua/laws/show/4651-17.

and this directly affects the content of the recommendations proposed by forensics.

Thus, guided by the norms of the Law of Ukraine on Criminal Liability[1], it is possible to consider forensic support of the prosecutor's activities in criminal proceedings in accordance with the classification of criminal offences in accordance with the sections defined by the Criminal Code (CC) of Ukraine[2]. This classification reveals the content of specific methods of investigating criminal offences. However, as noted by V.A. Zhuravel [27, p. 196-197], applying a multidimensional approach to the distribution of forensic techniques for the investigation of criminal offences, the following ordering of them vertically and horizontally is relevant: basic methodology; simple (single) methods – species, subspecies (micro methods); complicated (group) methods – generic, intergeneric, complex.

The approach to the four-level classification, which provides for such a distribution of investigation methods, is also substantiated:

– specific (by types of criminal offences, according to the Special Part of the Criminal Code of Ukraine[3]);

– intraspecies methods (distinguished among criminal offences of the same type by criminally significant features or features arising from the specifics of their investigation, the nature of solving criminal cases);

– interspecific (complex), which covers the issues of investigating interrelated criminal offences, and which have common criminal law and forensic criteria;

– extra-species forensic techniques. Such methods are based on the characteristics of the subject of the criminal offence, the influence of the situation, the specifics of the tools used to commit criminal offences, etc. The isolation of these methods is associated with the fact that simultaneously with the process of differentiation of scientific knowledge the integration process began to unfold [28, p. 574-575].

Thus, the forensic support of the prosecutor's activities in criminal proceedings in the form of developing methodological recommendations based on the type of criminal offence considers the classification group to which a particular forensic technique belongs.

Currently, the classification and content of forensic methods as a theoretical tool and practical task of law enforcement practice are undergoing significant changes. The war crimes committed on the Ukrainian state's territory under the Russian invasion necessitate a rethinking of the conditions and procedure for solving these tasks in the current conditions. The importance of the prosecutor's activity in the relevant criminal proceedings is growing, along with the requirements for its forensic support. Particular consideration is given to the procedure for international cooperation with foreign law enforcement colleagues during the collection of evidence. The responsibility in solving such tasks increases due to the fact that these materials are collected using forensic means, methods, techniques and they must be recognised as appropriate and admissible in the system of international justice, in particular – in the highest court - the International Criminal Court.

According to the data provided above, it is necessary to formulate unified requirements for the construction of forensic methods of investigation of criminal offences and, accordingly, effective recommendations that will take into account the specifics of the criminal offence under investigation and build the prosecutor's tasks taking into account the above and other features.

## Conclusions

Forensics is a legal science with a complex nature synthetic and integrative features. It is these features that make it possible to attract the achievements of other sciences, both legal and non-legal (natural, technical, humanitarian, etc.) to solve various forensic tasks. By using its own methodological tools, the information (knowledge, skills, abilities) of other sciences is transformed to enrich its theoretical basis and form an effective practical framework. Accordingly, by borrowing, transforming the achievements of other sciences, and conducting thorough research, provided that a number of requirements are met, is possible to observe the processes and results of creating an innovative forensic product.

According to the analysis of theoretical and practical sources, the content of a prosecutor's very multifaceted activity is to protect the individual, society and the state from criminal offences, and it is expressed in the protection of the rights, freedoms and legitimate interests of participants in criminal proceedings, as well as ensuring a prompt, complete and impartial investigation and trial. The achievement of such tasks is the main purpose of forensic support of the prosecutor's activity in criminal proceedings. The implementation of the main objective depends on the achievement of specific tasks of forensic support, which consist in the development of new and improvement of existing technical means, methods and techniques for working with criminally significant data in the activities of the prosecutor; the formation of tactical systems for effective actions in conflict and conflict-free situations; the development of a set of methodological recommendations for the investigation of certain types of criminal offences or their groups; formation and improvement of the organizational basis for pre-trial investigation and trial of criminal proceedings, preventive activities to avoid the commission of criminal offences, etc.

[1]Criminal Code of Ukraine. (2001, April). Retrieved from http://zakon.rada.gov.ua/laws/show/2341-14.
[2]*Ibidem*, 2001.
[3]*Ibidem*, 2001.

The aim of forensic support of the prosecutor's activities in criminal proceedings is to engage the latest achievements of forensic science, in accordance with its sectors: general theory, techniques, tactics, and methods developed in accordance with international and national legislation. It is important to consider innovative directions of development and their implementation in the criminal activity of the prosecutor.

Thus, to effectively counteract criminal offences at the international and national levels, which is a prerequisite for providing international and national security, it is important to address a number of factors. The essential among them is to consider the complex nature of both traditional and new methods, means, techniques of activity and their ultimate goal – prevention, detection, investigation of criminal offences and ensuring the trial of cases, along with creating conditions for the subsequent implementation of preventive activities, that is, elimination of causes and conditions that contributed to the commission of criminal offences.

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# Криміналістичне забезпечення діяльності прокурора в кримінальному провадженні: поняття, зміст, завдання

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**Анотація**

З огляду на зміни, які відбуваються в правовому житті держави, розвиток науково-технічного прогресу, процеси реформування правоохоронних органів, підвищення ефективності діяльності прокурора в кримінальному провадженні є актуальним завданням. Є й негативні обставини, які сьогодні потребують переосмислення й адаптації діяльності органів прокуратури до нових, екстремальних умов, – потреба протидіяти збройній агресії Російської Федерації. Ці та інші обставини обумовлюють формування оновлених засад діяльності прокурора. Відповідно, метою статті є висвітлення теоретичних засад і формування практичних рекомендацій щодо криміналістичного забезпечення діяльності прокурора в кримінальному провадженні за сучасних умов. Використання методу діалектики, спеціально-правових методів й опрацювання джерельної бази дало змогу встановити, що метою криміналістичного забезпечення діяльності прокурора є досягнення завдань, визначених ст. 2 Кримінального процесуального кодексу України. Реалізація цієї мети залежить від виконання конкретних завдань, які полягають у розробці нових і вдосконаленні наявних технічних засобів, методів і прийомів для роботи з криміналістично значущою інформацією; побудові систем тактичних прийомів для ефективних дій за різних ситуацій; формуванні організаційних основ і розробці методичних рекомендацій здійснення кримінального провадження щодо різних видів кримінальних правопорушень, реалізації профілактичної діяльності. Новими є положення щодо виокремлення напрямів криміналістичного забезпечення, які полягають у створенні теоретико-правового підґрунтя та реалізації практичної діяльності прокурора щодо криміналістичного забезпечення: у досудовому кримінальному провадженні; прокурорського нагляду за додержанням законів; у судовому провадженні; в особливих порядках кримінального провадження. На реалізацію криміналістичного забезпечення впливає також вид кримінальних правопорушень, щодо яких здійснюється кримінальне провадження, що визначає зміст запропонованих криміналістикою рекомендацій. Криміналістичне забезпечення діяльності прокурора реалізується згідно з техніко-, тактико- та методико-криміналістичним напрямом, застосовуються розроблені криміналістикою прийоми, засоби, методи, відповідно до системного підходу

**Ключові слова:**

криміналістика; правоохоронні органи; розслідування; криміналістична рекомендація; криміналістична інновація

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# Administrative and legal status of the national security and defence council of Ukraine as a subject of information security of the state

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**Abstract**

In 2022, when Russia unleashed a full-scale military attack against Ukraine, considerable attention was paid to information warfare, which is a direct threat to the country's information security. Information security is an important aspect of national security, and its subjects have proven their ability not only to withstand the onslaught of the aggressor state but also to fully resist it. Selfless confrontation, including information threats, was carried out by both state and non-state structures, IT specialists and citizens who understood the importance of winning on the information front. The purpose of the study is to outline the essence of the administrative and legal status of the National Security and Defense Council of Ukraine. It takes promising measures to counter threats to the state's information security. Based on the analysis of the accumulated empirical material, information security as the basis of national security of Ukraine is summarised; the position of the NSDC in the system of subjects of state information policy is outlined; measures to eliminate information threats through the application of prohibitive and restrictive sanctions are revealed. The scientific novelty lies in the attempt to consider the elements of the administrative and legal status of the NSDC in the information field for the first time since the full-scale armed invasion by the Russian Federation using the studied material and the legislative framework. The paper analyses existing gaps in the development and implementation of state policy in the information environment and outlines possible solutions. The author proposes her own interpretation of the administrative and legal status of the National Security and Defense Council of Ukraine. The suggestions for subsequent determination of the administrative and legal status of the NSDC and the mechanism for monitoring the effectiveness of the implementation of the Information Security Strategy will encourage scientists to further study this issue

**Keywords:**

security sector; national security subject; the decision of the National Security and Defense Council of Ukraine; sanctions; information environment

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## Introduction

Today Ukraine is facing both armed and information warfare, and it is difficult to say which one is more important. Ukraine will have a victory on all fronts, including the information one. Seven months of war proved the need for coordinated interaction of all subjects of information security of the state, and coordinated measures of security forces continue to protect the interests of Ukraine in the information space from real and potential threats.

The priority task of the National Security and Defense Council of Ukraine (hereinafter – NSDC) is to protect the national information environment and ensure national security in the information sphere, especially in martial law. The world is absorbed by the information environment, from the short stay of users on the Internet, and permanent, especially online.

The attitude of Ukrainians towards russia, its authorities, politics, propaganda, military personnel, bloggers, journalists, and celebrities has changed dramatically since February 2022. The world was finally able to see the policy of the aggressor country of russia from a different angle. Thus, diplomats made every effort to inform all countries of the world, in particular at the UN Security Council meeting, about the terrorist activities of the russian Federation through the killing of Ukrainian prisoners in Olenivka. The truth about what has happened and is happening on the territory of Ukraine should be accessible to everyone. The Ukrainian authorities are open to discussing all events and covering crimes committed by representatives of the russian Federation. It is the time when statements coming from the part of the russian Federation cannot be trusted. An important step was to inform the international community about all the details of the Ukrainian counteraction to the russian man-made famine. russian terrorism is primarily aimed at breaking the inner strength of Ukrainians. But Ukrainians are a great nation, with its own customs and traditions, which in a difficult moment have united to resist russia, and now to defeat it. The imposed sanctions against the aggressor country are gradually starting to take effect.

An analysis of the current state and level of the security sector of Ukraine, in particular in the information space, and its legislative support, leads to the conclusion that it requires further improvements and research.

The direct issue of the role and authority of national security and defence subjects was studied by R. Prav [1], H. Sytnyk [2], T. Tkachuk [3] and others. T. Zhuk devoted his work to the definition of the subject composition of the security and defence sector [4]. P. Bohutskyi [5; 6], I. Doronin [7] in their works covers the administrative and legal regulation of national security and the formation of the law of national security through the subjectivity of the state in the law of national security.

Certain aspects of the administrative and legal status of subjects of ensuring national security and defence of Ukraine were studied by P. Volotivskyi [8], in particular, the powers of the President of Ukraine as head of the mobilisation training and mobilisation of the state through the National Security and Defence Council of Ukraine.

Information security as a subject of administrative and legal regulation was considered by M. Baran [9], M. Dmytrenko [10]. V. Lipkan considers the NSDC as a state body of strategic communication in the field of national security [11].

The following researchers focused on security threats to the information environment as part of national security: O. Stepko [12], V. Antonov [13], O. Zolotar [14], V. Torichnyi [15], N. Tkachuk [16], T. Tkachuk [17-19], O. Panchenko [20], D. Melnyk [21], N. Bartosh [22], R. Prav [1], A. Voitsikhovskyi [23] K. Ismailov [24], D. Bielykh [24]. V. Smolianiuk defines the subjects of national security that are part of the national security system and the characteristics of information sovereignty [25]. Information security as an organic component of national security was considered in a monographic study by such scientists as M. Kryshtanovych, Ya. Pushak, M. Fleichuk, & V. Franchuk [26].

It should be stressed that the National Security and Defence Council, not only as a coordinating body on national security and defence but also as a body that makes important decisions for the state, including in the information sphere with further approval by the President of Ukraine, is of great importance for the implementation of the principles of domestic and foreign policy in the field of national security and defence. Today, the decisions of the National Security and Defense Council of Ukraine are particularly significant due to their timely detection, and prompt response to prevent and neutralise real and potential threats to the national interests and national security of Ukraine through the application of prohibitive and restrictive measures (sanctions).

*The purpose of the study* is to outline the essence of the administrative and legal status of the National Security and Defence Council of Ukraine; to study and predict threats to the national security of Ukraine in the information space, and, on the basis of the studied empirical base, to define information security as the basis of the national security of Ukraine; the position of the NSDC among the subjects of the State information policy; the mechanism of response to information threats to Ukraine; measures to eliminate information threats by applying prohibitive and restrictive sanctions and raising the level of awareness of Ukrainians in the information environment.

## Literature review

A significant gap in the current legislation is the lack of a clearly defined list of subjects of information policy.

[1]Law of Ukraine No. 2657-XII "On Information". (1992, October). Retrieved from https://zakon.rada.gov.ua/laws/show/2657-12#Text.

Whereas the Law of Ukraine "On Information"[1] contains only a conditional list of subjects of information relations, which is significantly different from the concept of subjects of information policy.

We agree with the opinion of R. Prav [1, p. 65] who argues that the desire of the aggressor to influence the state information infrastructure, information resources, society, and consciousness of citizens to coordinate and impose a planned system on the state is the main information threat. As emphasised by A. Voitsikhovskyi, with the development of the information society, critical infrastructure facilities that have been exposed to cyber threats over the past decade are becoming significant, as information and communication technologies are constantly advancing within the global information space [23].

It is worth highlighting the innovative approaches to eliminating threats to national security proposed by K. Ismailov & D. Bielykh [24] by creating a common system of protection, and developing the information space in Ukraine in the context of global information circulation with the observance of the relevant sovereignty and security. The author agrees with the main conclusion of the researchers, which is that the information sovereignty of the state cannot be the main goal of national security [24, p. 209].

At the same time, information security is a key element in the formation of society in the information space while supporting the interests of a given state. Providing the protection of information independence of the state directly proceeds from the essence of information security, which, in turn, is revealed through the protection of internal information; from disclosure; information resources. Information security, on the other hand, can control information flows, while limiting access to provocative, false, hostile information in its various manifestations; protect the national information environment from external information aggression/war [12, p. 91].

Of interest for this study is a number of works by T. Tkachuk, who pays attention to the legal support of information security, and researching the information security system, proposed his own formula "territory – population – public administration system", based on a set of subjects; infrastructure; space and resources and social relations in the information environment [17; 18].

O. Panchenko suggests defining effective mechanisms for neutralising information security risks at the legislative level by clarifying and classifying them. There is a need for the legal regulation of overlapping authorities of the national security and information security entities, and optimisation of their interaction. The author proposes his own interpretation of information security, with regard to its national and state interests and the system of strategic priorities [27].

A suggestion by E. Kobko on the legal consolidation of the subjects of ensuring national security in Ukraine by approving a regulation on the interaction and coordination of the subjects of ensuring national security, which defines the subjects, forms and methods of their interaction and the coordinating body among them, is valid [28, p. 21-22].

According to the author of the paper, the approach of O. Dovhan & T. Tkachuk on the interaction of information society actors on the basis of information exchange as a component of national security is justified. It is stressed that the information security system consists of reliable data, protection from any influence on it and security of information technologies. Attention is also drawn to the potential issues related to the observance of constitutional rights and freedoms of citizens in the spiritual environment and information activities [29].

The author agrees with the argument of O. Panchenko [20] that information security occupies one of the leading positions in the national security system. Since a certain state seeks to be stronger and more competent than others in such areas as military, technical, and economic, to prevail in strategic and tactical terms, and to develop and master new technologies in military equipment and weapons. The state that manages the advanced communication outlets and has an effective information system will be able to resist the information war. The main weapon of such a struggle in the international arena is information [20].

The author of the article supports the stance of N. Tkachuk [16], who points out that russia is a country that carries out cybercrime against Ukraine through the use of hybrid aggression tools (cyberattacks) aimed at destroying the information system, and critical infrastructure. Emphasis was also placed on increasing the effective counteraction to cybercrime, protection of state information resources and the importance of their examination [16].

Since, today, the activities of the russian Federation are associated with intensified cyber attacks on the information structure of Ukraine to damage or destroy it; continuing to conduct information warfare to destabilise the country; concealing or shifting the blame for its own crimes to Ukraine. Constantly changing the motives of its armed aggression in all its manifestations against Ukraine, carrying out terrorist and separatist activities on the territory of another country, russia hides behind the concept of the so-called "russian world". The author of the article shares the opinion of M. Baran [9, p. 53] that this is a small but acute part of the most dangerous external threats in the information sphere.

The structure of information support for national security, which consists of a list of national interests and priorities, characterises the information necessity of national security entities [30].

The war in Ukraine will show that the russian military aggression is aimed at destroying the sovereignty and integrity of Ukraine, while the unity of citizens and courage of the Armed Forces of Ukraine managed to resist the aggressor in defence of their homeland, since

the protection of the sovereignty and territorial integrity of Ukraine, information security as one of the functions of the state is the business of the entire Ukrainian people, as stated in Article 17 of the Constitution of Ukraine[1].

Having analysed the main provisions of the Constitution of Ukraine[2], the Law of Ukraine "On National Security of Ukraine"[3], the results of scientific research of Ukrainian and international scientists on the problems of determining the components of the national security system in the twenty-first century, V. Antonov emphasises the need for timely neutralisation of the threat, which carries the danger of interfering with national interests in such spheres of society and the state as foreign policy, information, economic, political, military, social, and environmental [13, p. 142-143].

## Materials and Methods

The author of the article used the legislative and regulatory basis, and the results of dissertation research of some scientists who studied this issue, in particular: V. Lipkan [11; 31; 32] on the legal status of the NSDC in the field of national security of Ukraine and its problematic issues.

The argument of V. Lipkan on the clarification of the name of the subject of national security – "National Security and Defense Council", which justifies the need to use the concept of "National Security Council of Ukraine" at the legislative level without the word "and defence", is worth considering, since according to him defence is one of the components of national security [32].

When preparing the article, the author found it important to analyse the works of Ukrainian researchers who have been studying this issue for an extended period of time, namely V.. Lipkan [11; 31; 32], V. Antonov [13], T.. Tkachuk [3; 17; 19], O. Zolotar [14], P. Bogutsky [5; 6], I. Doronin [7] to study and analyse their proposals and conclusions on ensuring national security, in particular in the information field.

Based on the task, the author of the article used the methodology, in particular, system analysis, systematisation, comparison, and other methods of scientific knowledge. The main methodological component was general scientific methods, among which the system approach, consisting of structural and functional methods, held a key place. Thus, to define and disclose the concept of the administrative and legal status of the NSDC, the study used the method of analysis and synthesis; to study the legal basis of national security and defence of Ukraine, the dialectical method was used; studying the legal status of the NSDC as a special national security body in the information environment, respectively, the logical method and comparative legal method has allowed the author to track legislative changes in this range of issues, with regard to current events.

To address these issues, the author of the article studied the legislative and regulatory framework for the subject of information security of the state – the National Security and Defense Council, and the mechanism of decision-making and adoption at the state level. The NSDC authorities were investigated and further steps to improve them were analysed.

The empirical material on the following issues is analysed: information security; information state security; problems of human rights and freedoms in the information society; threat to information security of the state; information security as the basis of national security of Ukraine; system of subjects of state information policy; activities of the National Security and Defense Council; protection and control of the national information space; elements of the administrative and legal status of the NSDC in the information space.

Important methods in preparing this article were comparative and axiomatic to determine the place of the NSDC in the security of the state, in particular the information environment. The mechanism of decision-making by the National Defence and Security Council on strategies and application of sanctions restrictive measures is outlined.

The conclusive method of research was the combined method, through which the author of the article proposed the definition of the administrative and legal status of the NSDC as a subject of information security of the state, based on a full methodological analysis.

## Results and Discussion

The status of the National Security and Defence Council of Ukraine in the legal field is defined by Article 1 of the Law of Ukraine "On the National Security and Defence Council of Ukraine" in accordance with the Constitution of Ukraine[4] as a coordinating body on national security and defence under the President of Ukraine.

Based on the content of Article 4 of the Law of Ukraine "On the National Security and Defence Council of Ukraine"[5], the competence of the NSDC includes powers that can be conditionally grouped by nature and content, for example, by law-making, control and organisational, information, accounting direction.

The special feature of the administrative and legal status of public authorities, which is endowed with administrative power functions, is its structure

[1]Constitution of Ukraine. (1996, June). Retrieved from https://zakon.rada.gov.ua/laws/show/254к/96-вр#Text.
[2]*Ibidem*, 1996.
[3]Law of Ukraine. No. 2469-VIII "On National Security of Ukraine". (2018, June). Retrieved from https://zakon.rada.gov.ua/laws/show/2469-19#Text.
[4]Law of Ukraine No. 183/98-BP "On the National Security and Defence Council of Ukraine". (1998, March). Retrieved from https://zakon.rada.gov.ua/laws/show/183/98-%D0%B2%D1%80#Text.
[5]*Ibidem*, 1998

and having reviewed the proposals and insights of administrative law researchers, the authors will attempt to present the elements of the administrative and legal status of the NSDC: 1) legal personality (legitimation in legal acts, concept, the procedure of formation, composition and structure); 2) administrative and legal principles; 3) competence; 4) forms and methods of activity; 5) decision-making procedure; 6) responsibility.

The core functions of the NSDC can be grouped into certain classification groups, namely: 1) the rule-making function (normative legal acts); 2) the function of interaction and coordination of national security subjects; 3) the controlling function (monitoring of tasks); 4) the information and analytical function.

One of the means of ensuring the national security of Ukraine, which includes information security, is the implementation of a comprehensive state information policy. Thus, the Law of Ukraine "On the National Security of Ukraine" has been in force for four years, the Decree of the President of Ukraine[1] "On the Decision of the National Security and Defence Council of Ukraine of September 14, 2020 "On the National Security Strategy of Ukraine"[2] has been in force for almost two years, but during this short time, conceptual updates have been initiated and the legal regulation of activities in the field of national security of Ukraine has been improved. Conditions for building effective vertical management of the security sector have been created.

The Law of Ukraine "On National Security of Ukraine"[3] stipulates that the state policy in the spheres of national security and defence is aimed at ensuring military, foreign policy, state, economic, information, environmental security, cyber security of Ukraine, etc.

Decrees of the President of Ukraine No. 448/2021 "On the Decision of the National Security and Defence Council of Ukraine" of July 30, 2021 "On the Strategy of Foreign Policy of Ukraine"[4] and No. 685/2021 "On the Decision of the National Security and Defence Council of Ukraine" of December 28, 2021 "On the Information Security Strategy"[5], in accordance with Article 107 of the Constitution of Ukraine[6], the enacted decisions of the NSDC are a logical continuation of ensuring national interests.

This provision has been embodied in the relevant legislation, in particular, the Law of Ukraine "On the Principles of Domestic and Foreign Policy"[7] which provides, in particular, for the functioning of Ukrainian public television and radio broadcasting with state support and funding for the protection of the national information environment. The Law of Ukraine "On Information"[8] refers to the directions of the state information policy, in particular, ensuring the information security of Ukraine and promoting international cooperation in the information sphere and Ukraine's entry into the world information space, but does not contain a definition of the concept of information policy.

Consequently, the legislation on determining the list of subjects of information policy needs to be improved, since the Law of Ukraine "On Information"[9] outlines only a conditional list of subjects of information relations, which is significantly different from the concept of subjects of information policy.

According to the author of the article, information security should be considered as a complex, systemic, multilevel phenomenon influenced by external and internal factors affecting the global political sphere, potential risks and threats, information and communication system and policy of the country. A number of publications by T. Tkachuk were devoted to threats to information security [3; 17]. At the same time, information security as a complex, dynamic, integral social system, is part of the security of the state and society precisely because of the interdependence and creation of certainty to protect their important interests, ensuring their competitive and progressive development [14, p. 154]. N. Bartosh [22, p. 21] emphasises that the tasks entrusted to public authorities regarding information security, information policy, and counterpropaganda are partially duplicated by the NSDC and the State TV and Radio Broadcasting. D. Chyzhov notes that one of the areas of ensuring human rights in digitalisation is ensuring its information security, and also proposes to study it in conjunction with cyber security [30].

Analysing the components of information security of the state O. Stepko [12, p. 97] argues that to prevent and counter information threats, it is necessary

[1]Law of Ukraine No. 183/98-BP "On the National Security and Defence Council of Ukraine". (1998, March). Retrieved from https://zakon.rada.gov.ua/laws/show/183/98-%D0%B2%D1%80#Text.
[2]Decree of the President of Ukraine No. 392/2020 "On the Decision of the National Security and Defence Council of Ukraine, "On the National Security Strategy of Ukraine". (2020, September). Retrieved from https://zakon.rada.gov.ua/laws/show/392/2020#Text.
[3]Decree of the President of Ukraine No. 392/2020..., op. cit.
[4]Decree of the President of Ukraine No. 448/2021 "On the Decision of the National Security and Defence Council of Ukraine of July 30, 2021 "On the Strategy of Foreign Policy of Ukraine". (2021, August). Retrieved from https://zakon.rada.gov.ua/laws/show/448/2021#Text.
[5]Decree of the President of Ukraine No. 685/2021 "On the Decision of the National Security and Defence Council of Ukraine of October 15, 2021 "On the Information Security Strategy". (2021, December). Retrieved from https://zakon.rada.gov.ua/laws/show/685/2021#Text.
[6]Constitution of Ukraine. (1996, June). Retrieved from https://zakon.rada.gov.ua/laws/show/254к/96-вр#Text.
[7]Law of Ukraine No. 2411-VI "On the Principles of Domestic and Foreign Policy". (2018, July). Retrieved from https://zakon.rada.gov.ua/laws/show/2411-17#Text.
[8]Law of Ukraine No. 2657-XII "On Information". (1992, October). Retrieved from https://zakon.rada.gov.ua/laws/show/2657-12#Text.
[9]*Ibidem*, 1992.

to improve the organisation of forms and methods by regulating the provisions of the functioning of the system, with the distribution of powers of public authorities; introduction of a system for monitoring the state of information security; forecasting possible critical threats to the information environment of the state and their elimination; improvement and development of technical capabilities of the state on the experience of world software and hardware to ensure information security; monitoring and analysis of statistical and financial indicators of the information security system; evaluation of the information security system through the study of its criteria and methods.

Moreover, the current conditions of russia's large-scale not only hybrid (economic and informational-humanitarian), but mainly purely armed warfare against Ukraine require a proper and timely response. One such method of response is the application of sanctions by the competent authorities of the state to manifestations of hostile information and disinformation special operations against Ukraine. In recent decades, the aggressor state has defiantly filled the information space with false and distorted information.

As rightly underlined by M.A. Dmytrenko [10], in view of the nature and distinctive features of russian aggression and genocide, a primary goal of the russian-Ukrainian war is to change the self-identification of Ukrainians. V. F. Smolyanyuk draws attention to the different understanding of the definition of "national values" by the authorities and the population of different regions of Ukraine, which, in turn, complicates the unified formation of the security culture of the state and societies [25, p. 120].

The analysis of recent events shows that the most effective subject of information security of the state is the constitutional body, namely the National Security and Defense Council of Ukraine, headed by the President of Ukraine, whose activities are also determined by a special act that has the force of law.

The NSDC, as the coordinating body in the sphere of national security and defence of the country, makes decisions on strategic national interests, conceptual approaches and directions, including political, economic, military and informational, taking into account potential threats[1].

The Institute of National Security Problems, the National Institute of International Security Problems and the NSDC's Administration are elements of the information security system of Ukraine.

According to the author of the article, these provisions outline the special status of the NSDC in the system of subjects of the state information policy. This is also evidenced by an important policy document approved by the NSDC on October 15, 2021, and enacted by the Decree of the President of Ukraine of December 28, 2021 – "Information Security Strategy"[2] (implementation period until 2025) (hereinafter – the Strategy). The first strategic goal is to identify and neutralise threats to national security, both internal and external, to eliminate terrorist, sabotage groups, and organisations of aggressor states with further improvement of information security of Ukraine[3]. To achieve the set goals, the NSDC should effectively interact with state bodies, organisations, and citizens[4].

Analysing the functional responsibilities of the subjects of information security of the state T.Yu. Tkachuk divided them into the following areas: information intelligence; information protection; information influence. The NSDC as a subject of information security was not included in the above subsystems, although the author considers it necessary to create an interdepartmental commission or coordination council under the NSDC to make coordinated decisions by the subjects of information security in the implementation of state policy [3, p. 45].

The mechanism of implementation of this and other goals and objectives of the Strategy[5] is , in particular, that the NSDC of Ukraine coordinates the activities of the executive authorities to ensure state security in the information environment also using the capabilities of the Centre for Countering Disinformation. Thus, among the subjects of information policy defined in the Strategy[6], the priority role is given to the NSDC as the constitutional coordinating body in the field of national security.

In 2021, the Centre for Countering Disinformation as a working body of the National Security and Defence Council was established to neutralise and prevent real and potential threats to Ukraine's national interests and national security, including compromising statehood, ensuring Ukraine's information security, and effectively countering russian propaganda and manipulation[7].

A. Shapovalov [33] suggests defining "information terrorism" to effectively combat it. The Centre's experts are developing dynamic interactive maps, in particular, prognostic maps of information threats and maps of information space, to form the immunity of Ukrainians to disinformation. The educational project "Educational Hub" is aimed at mastering knowledge on information hygiene [33].

[1]Law of Ukraine No. 183/98-BP "On the National Security and Defence Council of Ukraine". (1998, March). Retrieved from https://zakon.rada.gov.ua/laws/show/183/98-%D0%B2%D1%80#Text.
[2]Decree of the President of Ukraine No. 685/2021 "On the Decision of the National Security and Defence Council of Ukraine of October 15, 2021 "On the Information Security Strategy". (2021, December). Retrieved from https://zakon.rada.gov.ua/laws/show/685/2021#Text.
[3]*Ibidem*, 2021.
[4]*Ibidem*, 2021.
[5]*Ibidem*, 2021.
[6]*Ibidem*, 2021.
[7]Decree of the President of Ukraine No. 106/2021 "On the Decision of the National Security and Defence Council of Ukraine of March 11, 2021 "On the Establishment of the Centre for Countering Disinformation" at the National Security and Defence Council of Ukraine". (2021, March). Retrieved from https://zakon.rada.gov.ua/laws/show/106/2021#Text.

According to the author of the article, disinformation poses a massive threat as it cannot be quickly refuted due to the difficulty of proving and prosecuting the authors of fake news. Since the beginning of the full-scale russian armed attack against Ukraine, the experts of the Centre for Countering Disinformation at the NSDC have been working quite effectively and proactively, alerting the media and Internet networks about "fake" news. A striking example is a timely response to the spread of russian deepfake about the President of Ukraine Volodymyr Zelenskyy surrendering and fleeing the capital of Ukraine – Kyiv.

According to O. Stepka [12], the spirit of the nation is formed based on the information received, and this affects the national defence system. The brainwashed population ceases to analyse and verify information, so over time, it perceives it as if " as live as on TV", resulting in a distorted shown image of the world becoming more real than the world itself. Therefore, it is extremely important to impose sanctions on the work of websites, Internet pages and journalists, bloggers of the aggressor country in the first place.

A positive experience of military information confrontation with the armed aggression of russia was the educational activities of state bodies, in particular the NSDC activities among the population of Ukraine aimed at stabilising the threats planned by russia [34, p. 99]. It was constantly emphasised on not revealing the locations where the enemy missiles hit, and the movement of military equipment and weapons of the Armed Forces of Ukraine, especially in social networks and public media. Informational rehabilitation of persons from the occupied territories.

Aiming at the interaction of state structural bodies and civil society in the information space V.O. Torichnyi [15, p. 205] proposes to develop a state target programme "Electronic Ukraine" with fundamentally new opportunities for openness and transparency of decision-making, and improving the image and level of trust.

The NSDC plays an important role in current circumstances:

– as a coordinating body for national security and defence of the state;

– a body that makes important decisions for the state, including in the information space with further approval of the President of Ukraine. Decisions of the NSDC enacted by decrees of the President of Ukraine are binding on the executive authorities[1].

If the NSDC decision imposes sanctions, then in accordance with Article 5 of the Law of Ukraine "On Sanctions"[2], one of the types of sanctions (sectoral and personal) is indicated.

In addition to rule-making activities, such as the development and approval of policy documents in the information sphere (doctrines, strategies), the NSDC also takes targeted individual measures to identify and timely neutralise information threats to Ukraine by applying special economic and other restrictive measures.

Thus, according to Ukrainian legislation, restrictive measures (sanctions) can be applied to: a foreign state and a legal entity; a legal entity controlled by a foreign legal entity or a non-resident individual; foreigners, stateless persons, and terrorist entities[3].

One such type of sanction is the blocking of assets of persons (temporary deprivation of the right to use and dispose of assets), which is carried out by imposing sanctions by the relevant decision of the National Security and Defense Council.

Since 2015, the NSDC has adopted more than 50 decisions on the application of personal special economic and other restrictive measures (sanctions) to individuals and legal entities whose activities pose a danger to Ukraine, in particular in the information sphere. For example, by the NSDC decision of 02/02/2021, restrictive measures (sanctions) were applied to the following legal entities: LLC "Ariadna TV", LLC "New Format TV", LLC "TV Choice", LLC "TV and Radio Company "112-TV", LLC "Leader TV", LLC "Partner TV", LLC "News 24 Hours", LLC "New Communications"[4].

By the decision of the NSDC of 12/30/2021[5], restrictive measures were imposed on 16 individuals and legal entities, in particular on Anatoliy Shariy and Shariy.net News Agency LLC, who was notified of suspicion under two articles of the Criminal Code of Ukraine – Part 1 of Art. 111 "High Treason" and Part 1 of Art. 161 "Violation of the equality of citizens based on their race, nationality, religious beliefs, disability and other grounds"[6]. According to the Law of Ukraine "On Sanctions"[7], 12 sanctions were imposed on them, including other sanctions that comply with the principles of their application

[1]Law of Ukraine No. 183/98-BP "On the National Security and Defence Council of Ukraine". (1998, March). Retrieved from https://zakon.rada.gov.ua/laws/show/183/98-%D0%B2%D1%80#Text.
[2]Law of Ukraine No. 1644-VII "On Sanctions" (2014, August). Retrieved from https://zakon.rada.gov.ua/laws/show/1644-18#Text.
[3]*Ibidem*, 2014.
[4]Decree of the President of Ukraine No. 43/2021 "On the Decision of the National Security and Defence Council of Ukraine of February 02, 2021 "On the Application of Personal Special Economic and Other Restrictive Measures (Sanctions)". (2021, February). Retrieved from https://zakon.rada.gov.ua/laws/show/43/2021#Text.
[5]Decree of the President of Ukraine No. 57/2022 "On the Decision of the National Security and Defence Council of Ukraine dated 30 December 2021 "On Amendments to Personal Special Economic and Other Restrictive Measures (Sanctions)". (2022, February). Retrieved from https://zakon.rada.gov.ua/laws/show/n0089525-21#Text.
[6]Criminal Code of Ukraine. (2001, April). Retrieved from https://zakon.rada.gov.ua/laws/show/2341-14#Text.
[7]Law of Ukraine No. 1644-VII..., op. cit.

established by the Law of Ukraine "On Sanctions"[1] (blocking by Internet providers of access to web resources/services hosted on domains and subdomains sharij.net, sharij.online, sharij.com.ua, and other web resources/services that provide access to the Sharij.net[2] portal.

Thus, through its decisions, the NSDC more quickly and effectively responds to information threats to Ukraine, applying prohibitive and restrictive sanctions, while avoiding going to court, as provided for by the powers of another constitutional body – the National Council of Ukraine on Television and Radio Broadcasting. Its main responsibilities are control and supervision over the observance of legislation in the field of television and radio broadcasting, its licensing and state registration of television and radio organisations and programme service providers[3].

Thus, it is possible to suggest that the NSDC's sanctions decisions in the information sphere concern the suspension (but for an indefinite period), but not the closure of broadcasting by television and radio organisations, which does not exclude the resumption of their activities after they eliminate the identified violations of the legislation on information, in particular, and national security, in general.

The authors share the expert opinion of D. Melnyk [21, p. 25] on the importance of timely identification of risks and threats to state security in the information space by competent entities to prevent negative consequences.

## Conclusions

The full-scale armed attack of the russian Federation on Ukraine convincingly demonstrates that ensuring state sovereignty, territorial integrity and inviolability is the main task of the security and defence sector today.

Considering information security at the state level as a system of measures aimed at preventing and neutralising unauthorised access to information, an inflow of false information, change or violation of the relevant settings. First of all, information state security is aimed at protecting the state, political and public interests; state sovereignty; moral values; human rights and freedoms from any encroachments and discrimination; from war aggression and violence.

Protection and control of the national information space from real and potential threats, as well as dissemination of reliable information about Ukraine in the world information space and access to it are among the tasks of the National Security and Defense Council of Ukraine.

Thus, the author of the article notes that to balance democracy and security in the state, it is necessary to continue to work on improving the state system of information security in Ukraine to prevent monopoly in the field of information security.

The analysis of normative legal acts, scientific achievements of legal scholars has established that the administrative and legal status of the National Security and Defense Council of Ukraine as a subject of information security of the state is a set of specifically defined functions and competencies (law-making, control and organisational, information, strategic planning). The elements of the administrative and legal status of the NSDC should be recognised as: 1) legal personality (legitimation in normative legal acts, concept, formation procedure, composition and structure); 2) administrative and legal principles; 3) competence; 4) forms and methods of activity; 5) decision-making procedure; 6) responsibility.

In conclusion, it is important to highlight that the NSDC of Ukraine coordinates the activities of executive authorities to ensure state security in the information environment through the capabilities of the Centre for Countering Disinformation. Specialists of the Centre for Countering Disinformation have created the project "Educational Hub" to provide Ukrainians with knowledge on information hygiene and to form their immunity to disinformation ("fake" news).

Of particular importance is the formation and maintenance by the NSDC of the Register of persons with significant economic and political weight in public life (oligarchs). During its activities, the national security and Defence Council has considered a huge number of issues related to the formation and implementation of state policy with the adoption of appropriate decisions on them in order to stabilise both the political and informational situation in the state.

In view of the above, the author of the article emphasises the need for further refinement of the mechanism for monitoring the effectiveness of the implementation of the Information Security Strategy, in particular, regarding the NSDC sanctions decisions.

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# Адміністративно-правовий статус Ради національної безпеки і оборони України як суб'єкта інформаційної безпеки держави

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**Анотація**

В умовах повномасштабної воєнної агресії проти України значну увагу приділяють веденню інформаційної війни, яка є прямою загрозою інформаційній безпеці країни. Інформаційна безпека є важливим аспектом національної безпеки, а її суб'єкти довели свою спроможність не лише витримати тиск з боку держави-агресора, а й всебічно протистояти йому. Так, самовіддане протистояння, зокрема інформаційним загрозам, здійснювали як державні, так і недержавні структури, IT-фахівці та громадяни, які усвідомлювали важливість перемоги на інформаційному фронті. Метою статті є окреслення сутності адміністративно-правового статусу Ради національної безпеки і оборони України, забезпечення виконання нею перспективних заходів протидії загрозам в інформаційній безпеці держави. На підставі аналізу накопиченого емпіричного матеріалу узагальнено інформаційну безпеку як основу національної безпеки України, окреслено позицію РНБО в системі суб'єктів державної інформаційної політики, схарактеризовано заходи щодо усунення інформаційних загроз шляхом застосування заборонних й обмежувальних санкцій. Науковою новизною є спроба, з огляду на вивчений матеріал і законодавчу базу, вперше з моменту повномасштабного збройного вторгнення РФ розглянути елементи адміністративно-правового статусу РНБО в інформаційному полі. Також проаналізовано прогалини з розробки та втілення державної політики в інформаційному середовищі й окреслено шляхи їх розв'язання. Запропоновано авторське визначення адміністративно-правового статусу Ради національної безпеки і оборони України. Подано пропозиції з подальшого визначення адміністративно-правового статусу РНБО та механізму моніторингу ефективності впровадження Стратегії інформаційної безпеки, які спонукатимуть науковців до подальшого вивчення зазначеного питання

**Ключові слова:**

сектор безпеки; суб'єкт національної безпеки; рішення; Рада національної безпеки і оборони України; санкції; інформаційне середовище

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