



FORMATION OF FORENSIC COMPETENCIES OF ENTRY-LEVEL POLICE OFFICERS: A COMPARATIVE ANALYSIS OF THE EUROPEAN AND UKRAINIAN EXPERIENCES

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Abstract. This article examines the specific features of training for entry-level police officers in various European countries and Ukraine, with particular attention to the development of forensic competencies required for responding to criminal acts and working at crime scenes. The study analyses the structure of training programmes across different countries, focusing on how forensic training is integrated, whether forensic topics are directly linked to officers' initial roles, the extent to which professional duties influence the scope of forensic instruction and the balance between theoretical and practical knowledge. The findings indicate that although different European countries and Ukraine apply diverse models for preparing officers, they all ensure that future officers acquire essential forensic knowledge and develop the practical skills necessary for acting effectively at crime scenes, regardless of their eventual place of service. Based on the comparative analysis of these experiences, a core block of forensic knowledge is identified as fundamental to ensuring the proper implementation of forensic competencies in crime scene work.

Keywords: Forensics, Criminal investigation, Officer training, Initial vocational training, Public safety.

Introduction

Due to recent global developments, organisations are undergoing significant change, and managing these changes effectively across all areas has become crucial to their successful transformation. In parallel, issues of didactics within different scientific fields—each undergoing its own period of renewal—have become increasingly relevant. Technological advancements, the pandemic, the rise of artificial intelligence and other global transformations create opportunities to reconsider the role of didactics in the education and training of specific professions, including the forms and methods applied. However, a classic question continues to be raised: are the knowledge and skills provided to representatives of individual professions truly sufficient to ensure the proper performance of their roles and for them to achieve the desired results?

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It is widely recognised that ensuring public security requires more active involvement from society itself, in order that society becomes an even stronger guarantor of collective safety. The old saying, “you can’t put an officer next to everyone” (Palšis, 2014), reflects the increasingly broad understanding of didactics, particularly in its connection with, and alignment to, legal education. Bilevičiūtė (2023), who examined current issues in legal education and training, emphasised that legal education pursues several goals: not only the ability to understand laws, but also the recognition of human rights, attentiveness to others and the cultivation of reasonable thinking. The authors of this article further suggest that these goals should be supplemented with the ability to critically evaluate life events, situations and circumstances in order to assess emerging security risks and make decisions aimed at protecting one’s own property as well as that of other members of society.

However, much is expected of law enforcement, which necessitates a return to the scientific discussion on officer training models: which models dominate and whether the competencies developed during training ensure the effective performance of officers’ functions. In recent years, when evaluating whether the public security model that had been established and was operating in various states met society’s expectations of safety—that is, whether it is fully oriented towards ensuring the public’s sense of security—considerable attention has been directed to the development, enhancement, and consolidation of police officers’ competencies. The disappearance of clear boundaries in criminal activity, its increasingly global character, and the complexity of criminal schemes—whereby a crime may begin in one country and conclude in another—alongside other contributing factors, raise a legitimate question: is it appropriate to establish a set of core competencies for officers (at least at the European Union level)? Moreover, is the emerging discourse on competencies primarily shaped by highly specific national legal systems, and do differences in organisational structures hinder the practical implementation of diverse officer training models?

The analysis of scientific sources shows that the training of Lithuanian law enforcement officers has been examined mainly at the systemic level, with attention paid not only to current issues but also to processes of transformation and change (Vitkauskas, 2011). Some studies highlight the competencies required of officers, focusing on specific elements of the training system (Abraham, 2022; Smalskys, 2008). Initial training is described in detail in the first textbook of this kind, published in 2018—the first in the history of Lithuanian police science and practice—which comprehensively covers the main aspects of police officer training, outlining the core functions of police work and their characteristics (Bilius, 2018). Several authors have addressed both initial and continuing professional training of police officers (Misiūnas, 2010; Vitkauskas, 2011; Navickienė, 2011; Navickienė, 2018; Łabuz & Malewski, 2024). The integration of forensic studies into higher education, particularly in bachelor’s and master’s programmes, has only recently received scholarly attention (Łabuz & Malewski, 2024). A distinctive feature of modern forensic didactics is that it can no longer be limited to a classical approach. Experimental modelling has raised the question of whether traditional didactic tools remain suitable for investigating modern criminal acts. Findings confirm that they are suitable, but no longer sufficient, since forensic methodologies must be continually adapted to reflect changing methods and mechanisms of crime, including offenses committed in cyberspace (Navickienė & Bilius, 2024). The scope and content of forensic science are largely determined by the objectives of the study programme itself, a point emphasised by E. Kurapka in his examination of forensics as an academic discipline (Łabuz & Malewski, 2024). We fully agree with Prof. E. Kurapka’s argument that the demand for forensic knowledge and skills is determined by the nature of future professional activities. It follows that the content and scope of forensics cannot be identical across different higher education programmes. Scholarly debate continues as to whether forensic training alone is sufficient for future law enforcement officers (Kurapka, Malevski, & Bilevičiūtė, 2007). Attention must therefore be given to the specific functions of individual law enforcement units and the competencies required to fulfil them. Researchers have highlighted the importance of police functions in ensuring public safety (Laurinavičius, 2000), the tactical training of officers (Valeckas, 2004), and the competencies required of forensic specialists (Łabuz & Malewski, 2024). Periodic changes in organisational structures necessitate continuous monitoring to assess whether the scope and content of forensic training are sufficient and whether officers possess the necessary knowledge and skills to perform their duties effectively. Certain specialised issues, such as expert training, remain particularly relevant in the effort to align national

practices with European-level standards (Kurapka, Malevski, & Matulienė, 2016). Against this background, the present article seeks to assess whether the models used in different European countries and Ukraine to prepare first-line officers for work at crime scenes adequately provide them with basic forensic competencies, or whether the acquisition of such competencies depends more on the officer's future professional functions.

Standardisation processes at the European Union level have begun relatively recently. For example, the Directorate-General for Taxation and Customs Union has developed and published the EU Customs Competency Framework (CustCompEU) (European Commission DG TAXUD, n.d.) to inform customs training. The European Coast Guard Functions Training Network has prepared the Sectoral Qualifications Framework for Coast Guard Functions (European Coast Guard Functions Academies Network Project, n.d.), which also includes learning outcomes related to law enforcement in the maritime environment. Similarly, Frontex has established the Sectoral Qualifications Framework for Border Guarding (Frontex, n.d.), setting out the learning outcomes for border control. In addition, CEPOL is currently developing a sectoral qualifications framework for policing (CEPOL, 2025). One of the co-authors of this article serves as a CEPOL National Unit appointee, contributing personal expertise to the development of qualifications frameworks.

The aim of this study is, for the first time, to conduct a comparative analysis of the forensic competences of entry-level police officers in European countries and Ukraine. The study seeks to identify the basic forensic knowledge required to ensure the development of the competencies needed by officers working at the scene of a crime.

The study does not attempt to define a uniform forensic standard for police officers since the specific functions of officers at crime scenes vary across countries. Instead, by drawing on international experience, it aims to identify the essential competencies, knowledge and skills required by law enforcement officers in any country when arriving at a crime scene (i.e., the place where a criminal act has been committed). The analysis presented in this article may serve as a first step towards the development of a European Qualifications Framework for police officers in the area of criminalistics.

To achieve this aim, the following objectives were set:

- To assess the significance of forensic science and the influence of established forensic competencies on the work of police officers.
- Through a comparative analysis of the forensic competencies of entry-level police officers in selected European countries and Ukraine, to identify the fundamental forensic knowledge necessary to ensure that officers acquire the competences required for work at the scene of a crime.

The article applies an analytical method, examining relevant legal acts regulating the initial professional training of police officers and the performance of their functions, as well as scientific literature addressing current issues in higher, initial, and continuing professional training. In addition, the study employs the interview method, using a questionnaire administered to those personnel who are responsible for training in different European countries and Ukraine. A comparative method is also applied, enabling the content of professional police training programmes across countries to be compared, with specific attention paid to the development of forensic knowledge and skills and to the competencies required at a crime scene.

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1. The Importance of Forensic Competences and Their Development in the Work of Police Officers

As an interdisciplinary field concerned with the signs of criminal acts and their detection, investigation, and prevention, forensic science is primarily oriented towards enhancing public security. Different schools of forensic science emphasise different structures of the discipline (Malewski, Matulienė, & Juodkaitė-Granskienė, 2022; Kurapka et al., 2013). Despite these structural differences, it can be stated

without doubt that forensic science competencies are an integral part of a police officer's professional activities. Without knowledge and skills in forensic science, it is impossible to perform an officer's functions effectively. Due to its distinctly praxeological nature, forensic science should be regarded as a crucial instrument that law enforcement applies in practice when responding to and investigating criminal acts. One of its main tasks is to address practical needs by incorporating ongoing developments—specifically, the application of modern methods of criminal detection, investigation and prevention into professional practice (Latauskienė, Matulienė, & Raudys, 2003). With the continuous emergence of new methods and means of committing crimes, the importance of utilising the latest scientific research achievements with regard to investigations has increased more than ever before. In combating contemporary crime, it is necessary to constantly reassess the effectiveness of existing methods and to determine whether new and more efficient approaches are required. Furthermore, it is necessary to analyse how to strengthen the capabilities of law enforcement institutions in applying technologies that facilitate the detection and identification of criminal acts not only in actuality, but also in the virtual sphere. It is therefore essential to not only form forensic competencies in accordance with the established powers of officers, but to also continuously revise and update these competencies in order to respond to the evolving needs of practice.

It should be emphasised that a comprehensive understanding and in-depth knowledge of specific areas of forensics, including various forensic techniques, are essential for police officers. The systematic acquisition of knowledge in forensic medicine by cadets of education institutions under the Ministry of Internal Affairs of Ukraine constitutes a fundamental prerequisite for professional police work. These competencies ensure the ability to conduct proper crime scene inspections and to appropriately secure and preserve material evidence. Moreover, an understanding of the mechanisms of death, the nature and age of injuries, as well as the potential of laboratory analyses enables future law enforcement officers not only to establish objective truth in criminal proceedings, but to also effectively cooperate with forensic experts and organise the work of investigative and operational teams.

Criminalistic training equips cadets with the skills necessary to apply technical and forensic tools, as well as tactical methods, in the course of pre-trial investigations. This training encompasses the ability to work with traces and other material carriers of evidence, to plan and conduct both investigative (search) actions and covert investigative (search) actions, and to employ modern digital technologies. As a result, future police officers acquire the capacity to comprehensively analyse the circumstances of a crime, reconstruct its mechanism and ensure the proper evidentiary process in court.

The current state of development of criminalistics in Ukraine is marked by the formation of a general theory of criminalistics, the advancement and practical implementation of modern scientific and technical tools and information technologies in crime control, the refinement of criminalistic tactics and the formulation of methodologies for investigating emerging types of crime. M.V. Saltevsy explains that these are the very competences that police officers need: to detect, document, preserve, and interpret evidence (Saltevsy, 2005). Approved by the Ministry of Education textbook of V. Yu. Shepitko sets professional benchmarks in forensic competence for policing in Ukraine (Shepitko, 2008). Another textbook on criminalistics identifies the practical skills police officers must learn—from handling physical traces to applying tactical methods in investigations—and emphasises that these competences are essential for effective law enforcement (Tishchenko, 2019).

Many practitioners and scholars emphasise that the relationship between forensic science and practice is both dynamic and inseparable. In the case of complex forms of criminal activity—particularly when addressing the threats posed by organised crime—it is essential to anticipate developments (Kėža & Batrūnienė, 2023) and to align the strategies of forensic science with those of law enforcement institutions. This alignment involves creating a scientific concept for forensic science training and professional development for law enforcement and judicial officials, as well as preparing a model for its implementation (Kurapka & Malewski, 2021).

Another important trend in the development of forensic science is the active scholarly debate on expanding its system to incorporate digital forensics (Konovalova & Shevchuk, 2023). The aim of this

increasingly prominent dimension of forensic science is to apply digital forensic tools to the investigation of war crimes. According to Ukrainian researchers, this necessity arises directly from practice itself, particularly in response to war crimes committed in Ukraine (Konovalova & Shevchuk, 2023). In this sense, digital forensics is primarily focused on collecting digital information as admissible evidence, while also representing one of the most pressing and relevant topics in contemporary forensic science.

Another pressing issue in forensic science, which should serve the practical needs of investigating criminal acts, concerns the improvement of the structure and content of forensic methodology. Scholars have observed that “one of the modern problems in the effective investigation and detection of crimes is the formation, development, and improvement of certain criminalistic methodics of crime investigation” (Shevchuk et al., 2022). The methodology of forensic science, as a component of the discipline, must be continuously revised to reflect evolving methods of committing crimes as well as technological advances in recording and analysing traces. At the same time, the scope of forensic methodology should be understood more broadly: it should also encompass intelligence operations, law enforcement experience in investigating specific types of criminal acts and judicial practice. As emphasised by researchers, “the sources of development of the criminalistic methodology for investigating crimes are investigative, intelligence-gathering, and judicial practice, law, and scientific provisions” (Shevchuk et al., 2022). Such scientific discussions illustrate not only the ongoing transformation and inherent dynamism of criminalistics but also its clear orientation towards practice. They underscore the justified concern of scholars that criminalistics cannot remain static: modern criminalistics must adapt and respond to contemporary practical needs. Otherwise, the discipline risks diminishing its relevance, leaving the practice of crime investigation to develop independently of scientific knowledge.

Recently, the field of forensic research and crime scene investigation has been expanding. Studies confirm that effective performance at a crime scene depends not only on officers’ preparedness to apply forensic knowledge and skills, but also on their psychological readiness (Craven, Hallmark, Holland, & Maratos, 2022). A direct link has therefore been identified between psychological preparedness, resilience in critical conditions and the achievement of desired outcomes. For instance, researchers highlight that officers working at crime scenes require strong emotion regulation skills, resilience, a supportive social network in the workplace, and the ability to maintain control over their tasks in highly demanding conditions (Craven et al., 2022). Another important direction is the digitalisation of training aimed at developing officers’ practical skills for work at crime scenes. Worldwide, training exercises such as the mixed-reality game TraceGame are used to strengthen officers’ knowledge and skills by simulating realistic scenarios (Acampora, Trinchese, Trinchese, & Vitiello, 2023).

In most European countries, the development and implementation of modern crime investigation technologies are clearly evident: approaches to forensic knowledge are being revised and expanded with new elements, which are gradually introduced into officer training. Forensic science has always been, and will continue to be, closely linked to the work of law enforcement officers at all levels. Activity formats are being redefined and more effective practices are being adopted. These changes do not diminish the significance of forensic science in the investigation and prevention of criminal acts but rather expand its scope (Wojciechowski, 2023).

However, the emerging approach that is focused on the model of cooperation between society and law enforcement, does not exclude building the knowledge and skills necessary for police officers to ensure the proper performance of their functions. It is worth examining whether, in light of global changes, new methods of committing crimes, increasingly complex criminal schemes, and organisational reforms in law enforcement—such as changes in operational formats, the reassignment of officers’ functions, and the granting of specific powers—officers possess sufficient forensic knowledge. It is also important to assess whether they have the practical skills necessary to effectively detect, investigate, and prevent crimes. Despite the diversity and dynamism of contemporary global phenomena, first-line officers are always the first to arrive at a crime scene and their actions largely determine the quality of subsequent investigations.

In Ukraine, pre-trial investigations commence upon the entry of information into the Unified Register of Pre-trial Investigations. In urgent cases, however, a crime scene inspection may be conducted prior to such registration, with the information subsequently entered immediately after the inspection is completed or once an expert's report or conclusion is received. This procedural feature places heightened responsibility on the investigator and demands in-depth professional knowledge since investigators are the first to encounter material traces of the crime, which may be destroyed or altered. The integration of forensic, forensic medical and procedural knowledge is therefore essential to ensuring the effectiveness of the pre-trial investigation at its initial stage. The professional training of the investigator determines not only the timeliness and completeness of evidence collection, but also the legality of all subsequent criminal proceedings, directly influencing the fairness of the trial and the level of public trust in the justice system. Securing the crime scene, protecting physical evidence, assisting victims, maintaining effective contact with forensic experts and investigators and performing other critical duties constitute a complex set of tasks that directly influence investigative outcomes and may ultimately determine the success of the pre-trial process. Correctly collected and preserved data are vital, as they may later be admitted as evidence in court. Therefore, it is essential that the development of forensic competencies be linked not only to theoretical training but also to practical application, while also accounting for the specific powers and responsibilities of officers in each country.

Taking into account the diverse practices of European countries regarding officer training systems, this study further examines the experience of those countries that train entry-level officers, with particular attention to the preparation of these officers for work at the crime scene.

2. The Powers of Entry-Level Police Officers in European Countries and Ukraine at Crime Scenes and Their Connection to Forensic Competencies

In this article, forensics is distinguished as a science concerned with the signs of a criminal act and the clarification, investigation, and prevention of such acts. It is concluded that forensic competencies constitute an integral part of police officers' activities. At the same time, however, a question arises as to whether the practices of different countries support the view that every officer requires forensic knowledge and skills. For the purposes of this study, the focus was placed on entry-level police officers who, in some countries, are not granted the authority to carry out initial investigative actions at the crime scene.

2.1. Research methodology

To clarify the experience of different European countries and Ukraine regarding the preparation of entry-level police officers for work at crime scenes and to identify the basic forensic competencies required, a qualitative research method was applied—written interviews with targeted questions. For the interviews, a questionnaire was designed consisting of eight questions focused on the duration of professional training programmes for police officers, the provision of forensic technique knowledge and skills, and the scope of officers' powers at crime scenes, among other aspects. The questionnaire was distributed to representatives responsible for police training in 27 EU countries, Switzerland, the United Kingdom, and Ukraine. Responses were received from 19 countries and Ukraine, 12 of which provide initial professional training for police officers. The practices of countries that offer such training but did not participate in the interviews or provide answers are not examined within the scope of this study.

2.2. Analysis and discussion of the research results

The interview results revealed that initial professional training for police officers is conducted in Austria, Belgium, Bulgaria, the Czech Republic, Spain, Poland, Lithuania, Luxembourg, Slovakia, Slovenia, Switzerland, Hungary, and Ukraine. A comparison of these training programmes shows a number of similarities, particularly regarding the significance of forensic knowledge and the development of skills required for work at crime scenes. All participating countries emphasised the importance of forensics in police work. A more detailed assessment of the methodological parameters of the training programmes—such as programme duration, forensic topics, the balance between theory and practice,

employment-related features, and officers' powers at crime scenes—made it possible to identify the key characteristics of officer preparation for work at crime scenes.

Different training programme durations prevail, but similar employment characteristics. The duration of training has a direct impact on the competencies granted to police officers. Depending on the functions officers are expected to perform in service, decisions are made regarding the skills to be acquired during training and the time required to provide them.

In Lithuania, initial vocational training lasts 40 weeks (9 months), which is similar to Bulgaria. In Slovakia and the Czech Republic, the duration is slightly shorter—35 weeks (8 months). In Hungary, depending on the programme, training may last 43 weeks (10 months) or extend to 52–78 weeks (1–1.5 years). In contrast, training in Poland is shorter—20 weeks (5 months). Austria, Slovenia, and Luxembourg apply significantly longer training programmes lasting 104 weeks (2 years). Belgium, Spain, Switzerland, and Luxembourg employ combined models of training and internship. In Luxembourg, one year of theoretical and practical training is followed by a year-long internship across three different operational units (four months each, under the guidance of a mentor), resulting in a total of 104 weeks (2 years). In Switzerland, the first academic year is devoted to theoretical study, while the second year consists of practical training in police units. In Spain, theoretical and practical training lasts 40 weeks (9 months), followed by a one-year internship in police institutions, for a total of 1 year and 9 months. In Belgium, the training programme lasts one year and is supplemented by a six-month internship in different police departments, enabling specialisation in particular fields of activity; the total duration is thus 1.5 years. In Austria, the 24-month basic police training programme is divided into basic training (12 months), Internship I (3 months), consolidation (5 months), and Internship II (4 months). In Odessa Center for Initial Professional Training “Police Academy” (Ukraine) training period is 6 months.

Thus, a comparison of the duration of initial vocational training programmes in the analysed countries shows that, in most cases, the training period is shorter than one year, while in some countries, programmes last from 1.5 to 2 years.

When comparing the employment characteristics of these countries, it appears that officers in Lithuania, Poland, the Czech Republic, Hungary, and Slovakia typically begin their service in various public police units (e.g., prevention units, riot control). In Luxembourg, officers may also be assigned to other units. In Slovenia, as in Luxembourg and Belgium, officers may be employed in local police stations. In Bulgaria, graduates are deployed across a wide range of units, including pre-trial investigation and intelligence divisions. In Switzerland and Spain, newly trained officers are likewise assigned to different units, not exclusively to public policing roles.

These variations in employment placements indicate that initial vocational training programmes are not solely designed to prepare officers for work in public police units. Instead, they may also be oriented towards service in pre-trial investigation units, which in turn influences the scope of forensic competencies included in the initial vocational training curriculum.

Particular attention is given to the development of forensic competences required for work at the scene of a crime. A closer examination of the training programmes reveals that, in all the countries under consideration, police officers are prepared for work at crime scenes through instruction in the fundamentals of forensic techniques (e.g., securing the scene, locating, recording, and collecting traces). Each of the analysed countries underscores the importance of forensics for practical police work.

Although the responses provided by various foreign countries did not mention the existence of national professional standards, it is important to note that in Lithuania, the competencies required of entry-level police officers are regulated by the Professional Standard for the Public Administration Sector. This document specifies essential competencies in the field of forensics, including the identification of a crime scene and the organisation of its protection, as well as the performance of primary procedural actions at the scene (examinations, interviews, taking statements, and the seizure of objects) (Centre for the Development of Qualifications and Vocational Training, 2019). In Switzerland, a common and

binding framework for the development of police training curricula was developed by the Swiss Police Institute and issued by the Swiss police authorities. The framework specifies several relevant competencies, including identifying and securing physical evidence, safeguarding digital devices and data carriers until specialists arrive, conducting interrogations, documenting statements, and possessing basic competencies in digital investigations (Schweizerisches Polizei-Institut [SPI], 2019). When evaluating the Professional Standards adopted by other European countries, it was observed that forensic competencies are more prevalent at levels 5 and above of the Sectoral Qualifications Framework (SQF).

At the European level, forensics is identified as one of the core capability gaps among law enforcement officials that can and should be addressed through training (but not as entry-level police officers training). In the European Union Strategic Training Needs Assessment (EU-STNA), digital forensic skills are highlighted as particularly crucial, noting that “training in this area should have a strong focus on acquiring and using electronic evidence, e.g. in detecting cybercrime and seizing virtual currency” (European Union Agency for Law Enforcement Training, 2022).

As noted, the development of digital forensic competencies is particularly relevant at European level. However, an analysis of training programmes in other countries indicates that the acquisition of these competencies is not treated separately from the broader framework of forensic skills development. Instead, individual countries aim to strengthen digital forensic and related competencies through practice-oriented training, often conducted directly within the officer’s future working environment.

For example, in Luxembourg, approximately half of the total programme duration (12 months) is devoted to workplace-based competency development under the supervision of a mentor (Interview response, 10 July 2025). In other countries, the development of digital forensic competencies is integrated into advanced or specialised training courses rather than being included in entry-level police education.

It is also noteworthy that all countries include assessments of forensic knowledge and practical skills, thereby demonstrating not only the significance attributed to this area but also confirming the necessity for future police officers to acquire such knowledge for the detection, investigation, and prevention of criminal acts.

In most European countries, the acquisition of forensic competencies is evaluated through the performance of practical tasks. Training programmes typically allocate a proportionally similar amount of time to theoretical instruction and practical activities. The assessment of practical tasks is usually linked to specific competencies, such as crime scene examination, interviewing, and related skills.

An analysis of assessment procedures shows that countries apply a variety of evaluation methods, including written tests and practical examinations. In some cases, candidates are permitted to take the final examination only after successfully completing required practical tasks. For example, in Slovenia, trainees must demonstrate the ability to write an inspection report based on cases discussed during practical exercises and prepare documentation for submitting collected traces for further analysis. High-quality written outputs serve as a prerequisite for sitting the final exam.

In other countries, examinations are more comprehensive and cover multiple areas of competence. For instance, in Switzerland, cadets must pass an “operational readiness exam” after the first year in order to continue their training. Upon completing the second year, training concludes with the federal professional examination. In Luxembourg’s 24-month programme, a final theoretical examination is conducted after the initial 12 months of study. Candidates who pass this stage then proceed to a 12-month field-training phase, during which they must complete three practical assignments.

These findings highlight that forensic knowledge is essential in the professional duties of every officer, regardless of the specific functions performed in service.

The duration of forensic science training varies considerably across countries. An examination of the topics included in initial vocational training programmes for preparing police officers to work at crime scenes shows that all countries emphasise both the provision of theoretical knowledge and the development of practical skills. The most significant difference, however, lies in the total time allocated to forensic science. In Austria, 164 hours are devoted to forensic science topics; in Switzerland, the duration ranges from 130 to 160 hours; in Belgium, 132 hours are allocated; in Bulgaria, 114 hours; in Slovakia, 86 hours. In Slovenia, 82 hours are devoted to forensic science over two years of training. In Lithuania, the programme allocates 60 hours to general forensic science, while in Poland the number is approximately half that amount.

When assessing the extent of forensic techniques within forensic science training, Slovenia allocates 22 hours. Lithuania and Luxembourg devote 30 hours each to comparable topics, Slovakia 16 hours, Hungary 32 hours, and Spain 40 hours. In Poland, however, the basics of forensic techniques are not presented as a separate subject; instead, issues related to the detection, documentation, and collection of traces are integrated into the broader topic of crime scene examination, which is allocated 24 hours in total. In the Czech Republic, 14 hours are assigned to forensic techniques, with the content structured to address the most relevant areas of the discipline. The main thematic areas include forensic trace evidence, forensic identification, facial identification, dactyloscopy (fingerprint analysis), scent identification, biology and genetics, traceology, mechanoscopy, ballistics, and pyrotechnics. In addition, the fundamentals of forensic techniques are incorporated through model scenarios, designed to reinforce theoretical knowledge and enhance the practical skills necessary for performing duties in real-life environments.

An analysis of the initial vocational training programmes of the countries being analysed reveals a fundamental difference in two main areas related to forensic tactics. In Slovakia, 38 hours are devoted to forensic tactics, including scene examination, interrogation tactics, and related subjects. In the Lithuanian curriculum, 24 hours are allocated to scene examination, while in Poland the corresponding number is 12 hours.

Overall, the time devoted to forensic training ranges from 60 to 160 hours. This variation demonstrates that, although considerable importance is attached to the subject of forensics, the allocation of time to forensic techniques and tactics differs substantially. Such disparities raise concerns as to whether, in countries where the least time is allocated (e.g., the Czech Republic and Poland), trainees acquire the basic knowledge required for professional duties at the crime scene.

The balance between theory and practice is systematically assessed during training. In all the countries studied, first-line police officers are responsible for securing the crime scene, establishing its perimeter, providing emergency assistance to victims, requesting additional medical support and documenting essential information related to witnesses and other significant circumstances. Consequently, an analysis of the training programmes indicates that the curricula emphasise and maintain a balance between theoretical and practical components. For instance, according to information provided by the Slovak representative, “the theoretical knowledge of different topics is supplemented by practical and integrated workshops and workplaces (polygons). The teacher complements the curriculum with specific and model examples from the performance of the service. Students learn to work with relevant general binding legislation and internal acts regulating the activities of the police in relation to the implementation of primary measures at the crime scene, crime scene search, search for persons and objects, and interrogation” (Interview response, July 15, 2025). It was also noted that practical, integrated exercises that require students to handle common security situations faced by police officers in riot police units are crucial for shaping their professional competence. Depending on the type and complexity of the scenarios, instructors from other subjects are also engaged in designing and delivering these integrated training activities.

The training model implemented in Luxembourg is distinctive in its balance of theoretical and practical components. In the first year, trainees study academic subjects, acquire foundational knowledge and participate in exercises conducted within the training institution. According to a Luxembourg

representative, “during the second year of their initial professional training, trainees complete three practical assignments, each lasting four months. These rotations typically include placements in two different regional police stations and one department within the judicial police. This phased approach is designed to provide a broad introduction to operational policing and investigative work. Under the supervision of experienced officers, trainees gain hands-on experience in frontline policing, community interaction, and criminal investigations, helping them to apply their foundational knowledge in diverse real-world contexts” (Interview response, July 10, 2025).

In Slovenia, forensic science techniques are taught consistently throughout both years of training. Considerable attention is devoted to individual branches of forensic techniques to ensure that future officers acquire the necessary knowledge and develop essential skills. According to a Slovenian representative, “[the trainee] knows the equipment with which he/she can professionally and qualitatively conduct inspections of crime scenes, can distinguish between indoor and outdoor photography techniques, can determine the difference in meaning of situational and close-up shots, is able to substantiate the meaning of photographing crime scenes and criminal acts, can understand the meaning of establishing identity, and substantiates the meaning of traces in combating crime” (Interview response, July 24, 2025).

In other countries, similar attention is proportionally devoted to developing both the theoretical and practical skills of officers.

The limits of the powers of first-line officers at the crime scene. First-line officers in Lithuania, Poland, Switzerland, and Slovenia are authorised to perform initial actions to investigate the circumstances of an incident. These may include conducting an inspection of the scene, recording traces—particularly in cases involving minor crimes—and assisting specialists or experts at the scene. In Bulgaria, however, the powers of officers vary depending on the unit in which they serve. According to a Bulgarian representative, “police officers from the security and traffic police units, performing patrol and post activities, are trained in the following initial actions upon arrival at the scene of the accident: identifying injured persons and providing priority first aid independently or together with a medical team; identifying potential witnesses, taking information from them regarding the committed act and the identity of the victims and perpetrators, as well as ensuring their presence until the main team arrives; establishing the boundaries of the accident scene and fencing off the perimeter in order to prevent further disruption of the situation at the scene. If necessary, and at their discretion, this includes: expanding the perimeter of the crime scene, as well as the arrival and departure routes of the alleged perpetrators of the crime; preserving the crime scene and any traces and material evidence from atmospheric influences and side effects until the arrival of a crime scene inspection team; informing the duty unit in the department about the situation established by direct personal observations, before and during the inspection; compiling and maintaining a list of all persons, including employees, who entered the perimeter of the crime scene; as well as assisting the inspection team in providing replacement persons in accordance with the Criminal Procedure Code, and preparing a written report on all actions performed and the established facts and circumstances” (Interview response, July 28, 2025).

In Austria, the Czech Republic, Spain, Slovakia, Hungary, Ukraine and Luxembourg, officers do not conduct independent inspections of the crime scene; such tasks are carried out by a designated investigator or expert. At this level, the responsibilities of officers are typically focused on securing the scene and performing other essential actions, including assessing the situation, notifying the operations centre, providing first aid when necessary and ensuring the security of both suspects and witnesses.

However, in Luxembourg, in exceptional cases, first-line officers may record traces. This occurs in urgent situations, such as adverse weather conditions, when traces are at risk of disappearing. A similar practice exists in Belgium, where the involvement of first-line officers at the scene of an incident depends on several circumstances. According to a Belgian representative, “it depends on the type of crime scene, and on the regulations at the local police zone. Some investigations must be led by a judicial police officer and must be performed by specialised services such as CSI” (Interview response, July 16, 2025).

The analysis of the powers of first-line officers at the crime scene in foreign countries indicates that these powers are shaped by national legislation, the criminal investigation model applied in each jurisdiction, and other organisational features of police work. In all countries, officers are authorised to perform tasks requiring forensic knowledge and skills. These include not only securing the crime scene but also understanding the principles and procedures of scene examination, conducting inspections, documenting and collecting traces, gathering primary information about the crime, questioning individuals present, pursuing suspects, and conducting searches.

A comparative review of the information provided by Austria, Bulgaria, Belgium, the Czech Republic, Spain, Lithuania, Poland, Luxembourg, Slovenia, Slovakia, Switzerland, and Hungary shows that training models for first-line officers share similarities but are not identical. Variations in the total duration of training programmes, the structure of their content, and the balance between theory and practice influence the scope of forensic training, particularly the time allocated to specific forensic techniques and topics. The study found that longer training programmes provide more opportunities for developing forensic knowledge and skills. The Luxembourg model is particularly distinctive for its practical orientation: future officers spend up to half of the programme (one year) interning in various police departments under the guidance of experienced mentors, thereby significantly enhancing their practical competences.

It is noteworthy that a broader scope of forensic courses and the development of relevant skills are characteristic of those countries where first-line officers are authorised to work independently at crime scenes and to carry out initial actions in cases of minor crime investigations.

The results of the study confirm a strong correlation between the duration of training programmes and the time allocated to forensic topics. Longer training programmes provide greater opportunities to strengthen forensic preparation and to cover a wider range of subjects related to forensic techniques and crime scene examination.

Across the professional training programmes of Austria, Belgium, Bulgaria, the Czech Republic, Spain, Lithuania, Poland, Luxembourg, Slovakia, Slovenia, Switzerland, Ukraine, and Hungary, forensic topics—including forensic techniques—are systematically integrated, regardless of the precise number of hours assigned. These programmes consistently aim to equip officers with the knowledge and skills required for work at crime scenes. While emphasising the importance of forensic science, all countries highlight the necessity of practical skills for effective performance at the crime scene. This indicates that the specific training approaches adopted in different countries, although varied in scope and structure, do not fundamentally alter the overall model of preparing officers for such work.

Drawing on the practices of the countries analysed, the study identified a core set of forensic competences required for any officer expected to operate at a crime scene (see Table 1). These consist of essential knowledge and practical skills in forensic techniques, forensic tactics, and forensic methodology.

| No. | Competencies Being Formed | Suggested Topics of Forensics |
|-----|--|---|
| 1. | Assessment of the circumstances of a crime and initial identification of possible indicators of a criminal act | Fundamentals of forensic tactics, techniques, and methodology, and their interrelationships. Types, characteristics and distinctive features of specific criminal acts. |
| 2. | Determination of the perimeter (boundaries) of the crime scene and ensuring its protection | Fundamentals of forensic tactics. The concept and boundaries of the crime scene. Security requirements. Types of crime scenes. Basic principles of scene inspection. |
| 3. | Provision of first aid to the victim | Fundamentals of forensic tactics and methodology. Assessment of the victim's condition and ability to communicate. Provision of immediate assistance. |

| | | |
|----|---|--|
| | | Procedures for requesting necessary medical support. |
| 4. | Detection, documentation, and collection of traces | Fundamentals of forensic techniques. Types of forensic methods (dactyloscopy, trasology, odorology, etc.). Basic principles of detecting, documenting, and collecting traces. Specific features of working with biological, trasological, odorological, and other types of traces. |
| 5. | Cooperation with other personnel operating at the crime scene | Fundamentals of forensic tactics. Specific features of cooperation at the crime scene. Forms of assistance to the investigator, prosecutor, and forensic expert (specialist). |
| 6. | Identification of witnesses and initial collection of information through interrogation | Fundamentals of forensic tactics. Types and characteristics of interrogation. Basic principles of interrogation. Interrogation tactics. Methods of documentation of collected information. |
| 7. | Immediate pursuit of an offender | Fundamentals of forensic tactics and methodology. Criminal data and other information relevant to the investigation. Threat assessment during apprehension. Tactics of detention. |

Table 1. A core set of forensic competences required for any officer expected to operate at a crime scene

Considering the prepared set of proposed forensic competencies, it is reasonable to assume that the standardisation of the competencies required for entry-level police officers could become one of the integral dimensions of ENFSI 2030 development (European Network of Forensic Science Institutes [ENFSI], 2021). Establishing a set of mandatory forensic competencies would create significant prerequisites for implementing ENFSI provisions on minimum quality requirements for countries in the field of forensic science and forensic expertise, facilitate international cooperation, and provide further guidelines for the standardisation of procedures.

This study did not examine the experience of countries that provide initial professional training for police officers but were not included in the research and did not provide responses. Therefore, in the future, when continuing the scientific discussion on this topic, it would be useful to examine and evaluate the practices of such countries.

Conclusions

Forensic science knowledge and skills are essential for police officers at all levels, since they ensure the effective performance of core functions in responding to, detecting, investigating and preventing criminal acts. The changing nature of crimes, methods of commission and criminal schemes makes it necessary to not only apply information technology tools but also highlights the importance of developing officers' forensic science competencies—an integral element in building modern public security. Strengthening the connection between forensic science and practice is therefore necessary to ensure that forensic science can adequately respond to the evolving needs of practice.

The results of the study show that by applying different models of officer training—particularly in the preparation of first-line officers—various European countries, as well as Ukraine, can provide future police personnel with essential forensic science knowledge and practical skills necessary for work at crime scenes, regardless of the specific service assignment. An assessment of the experience of different countries in developing the forensic competencies of future officers highlights the need to conceptualise the basic forensic knowledge required, by establishing a mandatory block of such knowledge to ensure the effective performance of forensic tasks at crime scenes. Regardless of the different models used to

train entry-level officers, this foundational block could serve as the first step towards creating a European Qualifications Framework for police officers in the field of criminalistics.

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