

One hundred years of firearms and ballistics examination in the Polish Police – from the first expert examinations to contemporary forensic science

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Foreword

The year 2026 is a special one for Polish forensic science. It marks one hundred years since the events that initiated the development of structured firearms and ballistics examination in the Polish Police. This anniversary provides an opportunity not only to commemorate the history but, above all, to look back how far this field has come over the past century – from the first attempts to use technical knowledge in explaining incidents involving firearms, through the development of identification methods, to present-day examinations that draw on advanced technologies, specialist equipment and the long-standing expertise of seasoned professionals.

The history of forensic firearms examination within the structures of the Polish Police dates back to the beginnings of the Second Polish Republic. After Poland regained independence, one of the important tasks of the newly organised State Police (Policja Państwowa) was to create a scientific and technical base that would make it possible to apply the achievements of science in the detection and evidentiary process. In the interwar period, the Forensic Laboratory of the State Police Headquarters expanded, and its activities included, among other things, expert examinations relating to firearms. In October 1927 the laboratory was separated from the Central Police School (Główna Szkoła Policyjna) and incorporated into Division IV of the Investigation Service Headquarters (Centrala Służby Śledczej) of the State Police Headquarters.

The development, in the mid-1920s, of examinations relating to firearms and to the

identification of the marks left by their use may be regarded as the symbolic beginning of the history whose centenary we are celebrating in 2026. Surviving records document both the first expert examinations carried out at the Police Laboratory and the gradual extension of the scope of examinations. The earliest cases also included incidents involving the use of firearms in which the analysis of cartridge cases and other evidence was significant for reconstructing the course of events and for indicating the potential source of the recovered material.

The development of forensic firearms examination in the interwar period is evidenced not only by the surviving records of the activities of the police structures of the time, but also by the scientific studies produced during that period. A special place is held by the work of Dr Władysław Sobolewski published in Warsaw in 1936, entitled "Identyfikacja łusek i pocisków z krótkiej broni palnej do celów sądowych" [Identification of handgun cartridge cases and bullets for court purposes]. The very title of this study points to the interest at the time in the identification of firearms on the basis of the marks they leave.

Today's Central Forensic Laboratory of the Police continues the examinations whose beginnings can be found in pre-war studies. Its fundamental task is to use forensic knowledge and forensic techniques in the identification, prevention and combating of crime and in the detection and prosecution of offenders.

The scope of present-day examinations is very broad. It includes, among other things, determining the kind, type, model and calibre of firearms and ammunition, assessing the serviceability of a firearm (its capability of firing),

examining industrially manufactured and improvised projectile-launching devices, identifying firearms on the basis of fired cartridge cases and bullets, identification examinations of cartridge cases and bullets, analysis of gunshot damage and issues of exterior ballistics.

The topics presented in this anniversary issue reflect the diversity of the examinations, but they are also a reminder that human ingenuity truly knows no bounds. Unusual designs and unconventional solutions can still surprise experienced forensic experts.

The papers published in this issue take the reader through various areas of present-day firearms and ballistics examination – from the reconstruction of events and the investigative experiment, through cases of unusual use of firearms and ammunition, improvised designs and air weapons, to issues of identification, design modifications, damage to firearms and technical solutions used in firearms.

The choice of these topics is not accidental. What they have in common is the practical nature of the examinations and their connection with the real problems that forensic laboratory experts encounter every day. They show that even in a field with a hundred-year tradition there are still questions that require new research, experiments and verification.

Over one hundred years, the designs of firearms and ammunition, manufacturing technologies, examination methods, instrumental capabilities and legislation have changed, including legislation connected with Poland's membership of the European Union. What has remained unchanged, however, is the fundamental purpose of the examinations – the use of scientific knowledge and expert experience to explain events objectively and to provide the procedural authorities with reliable information about the evidence.

The anniversary is therefore an occasion to thank all the generations of experts who, over the decades, have built up the achievements of our field – developing methods and procedures, creating collections, documenting their experience and passing on their knowledge to successive generations. It is also an occasion to show that a hundred years of experience does not close a chapter but provides a solid foundation for the further development of firearms and ballistics examination.

The articles featured in this issue stand as a prime example of this.