SERVICIO DE CRIMINALÍSTICA OF THE GUARDIA CIVIL

(SECRIM)

Service Directory

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Service directory

Forensics:

«Study of the evidences of a criminal act
in order to determine all possible data regarding
the victim or the circumstances of the crime»

(Definition included in the twenty-third edition of the RAE Dictionary,
at the end of 2014 at the request of the SECRIM)

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1.
INTRODUCTION

COVID laboratory of the SECRIM of the Guardia Civil

The Servicio de Criminalística (SECRIM) is made up of approximately 600 Guardia Civil members who work in different laboratories. Our main function is to draw up expert reports and present them in court, which requires a great deal of time for training and research.

It is perhaps not well known that in 1914 the Guardia Civil began research and work in the field of Forensics, more specifically in fingerprint identification. The embryo of the current Central Laboratory was developed in 1995 in the heart of the Guardia Civil Officers Academy, through the so-called «Police Technology Laboratory», which initially included the disciplines of Handwriting and Documents, Ballistics & Tool Marks and Lophoscopy, to which all the others have been added over time. The good results obtained facilitated not only the creation of the Central Laboratory, but also its extension to the peripheral Regional HQ and Provincial HQ crime laboratories.

With the aim of increasing the levels of self-demand, this document aims to bring the readers closer to the activity of the «Servicio de Criminalística of the Guardia Civil», to set out quality commitments that facilitate evaluation and allow citizens to learn about the performance of a vitally important mission for the Guardia Civil and for public safety in general, such as the investigation of crimes and the bringing to justice of people who have allegedly committed a crime.

From its origins to the present day, the main value of the Criminalistics Laboratories of the Guardia Civil lies in the excellence of its professional team, their dedication and commitment, work capacity, eagerness to improve, determination, technical qualifications, scientific interest and, in general, their commitment to the Guardia Civil and to Forensic Science.

The main target audience of this Service, and therefore of this Directory, are the Courts and Judicial and Prosecutorial Authorities, and of course, the citizens, to whom the Guardia Civil owes its duty and for whose protection the Law Enforcement Agency has been working for 180 years.

2.
GENERAL INFORMATION

2.1. IDENTIFYING DATA AND PURPOSES OF THE SECRIM

The Guardia Civil was created by Decree on 13 May 1844 and since its creation, among its many missions, has been entrusted with the fight against crime, in all its forms, and assistance to Justice.

The Duke of Ahumada, founder of the Guardia Civil, wished to create a military force *distinguished by its honour worship and high discipline, which would act as a protector of people and their property, and serve as an auxiliary to Justice.*

In this mission of assistance to justice, the SECRIM plays a very important role, as it is the Guardia Civil Service in charge of providing the Judicial Authority and the Courts with valid, scientifically contrasted evidence, which will allow them to clarify crimes, convict guilty people or acquit innocent people.

There are important historical events, external to the Institution itself, which have been shaping the current structure and functioning of the SECRIM: apart from the previously mentioned use of fingerprints, the subsequent use of DNA analysis and the growing development of new technologies. These developments have brought and continue to bring new challenges to crime investigation, while at the same time allowing the adoption of new and more efficient methods and techniques in this field.

The current layout of the SECRIM allows us to speak of a Service of major importance for the Institution, which has a multidisciplinary Central Laboratory in Madrid, as well as a territorial deployment with laboratories in Regional HQs and Provincial HQs. Most of these laboratories have different types of accreditations issued by the National Accreditation Entity (ENAC) for the performance of various forensics, environmental and Crime Scene Investigation Reports.

2.2. SERVICES PROVIDED BY THE SECRIM. OUR 'CUSTOMERS'

> *(...) if they become aware of the perpetration of a criminal offence, will try to find out by all possible means, where these people were on the day and time it was committed. By carrying out these inquiries with careful and meticulous examination, which so delicate a matter requires, perhaps a crime will not be committed, the perpetrators of which will not be discovered (...)*
>
> Cartilla del Guardia Civil, 1845

Guardia Civil investigation, XIX century

The Servicio de Criminalística is a technical-scientific-operational unit of the Judicial Police. Its operational nature is given by the possibility of carrying out its work outside its usual premises, complementing the work carried out by the unit in charge of the investigation of crime.

The technical-scientific character is due to the fact that it uses science together with the set of technical tools available in the field of criminalistics to formulate hypotheses, which in an investigation can be verified by observation and experimentation, and which will lead to the construction of evidence of crime, which leads, first, to the arrest of the person who has committed the crime and finally to his conviction by the Justice.

Therefore, the «clientele» of SECRIM is:

- Courts and Judicial and Prosecutorial Authorities, which collect the expert reports prepared by the different specialist personnel of the Service.
- The investigation units of the Guardia Civil, which request specific support and technical reports from the different Criminalistics laboratories.
- The general public, for whose security we work.

2.2.1. Courts and Judicial and Prosecutorial Authorities

One of the most important missions of SECRIM is the preparation of expert and technical reports requested by Courts and Judicial and Prosecutorial Authorities in the development of criminal proceedings in which they participate. Given the importance and seriousness of this type of procedure, which can even lead to the deprivation of liberty of individuals, the expert report is an essential part of the criminal process.

All the parties involved in the criminal proceedings (Public Prosecutor's Office, Defence, Private Prosecutions, Judicial Authorities, etc.), if necessary, will rely on the expert report to justify their positions and hypotheses, or they will question or refute it to defend their own hypotheses when these differ from the opinion of the staff carrying out the expert opinions.

Hence the importance of expert reports and the need for them to be prepared by real experts in their respective areas of knowledge, equipped with the appropriate techniques, methods and experience. In fact, regardless of the academic training they have in their respective disciplines, the specialist staff of the different SECRIM laboratories need an average training of approximately two years to be able to act as legal experts.

This academic, technical and professional training is what makes it possible for the personnel who carry out the judicial expertise to prepare their reports with rigor, objectivity and scientific basis, and also to be able to present them with firm belief in court when the corresponding oral hearings are held.

2.2.2. Our Research Units

Each of the 54 Provincial HQs that make up the Guardia Civil has an Organic Unit of Judicial Police for the investigation of the most important crimes, which have Forensic Laboratories where, among other tests, they carry out the development and comparison of lophoscopic fingerprints. There are also Regional HQ Forensic Laboratories, which integrate laboratories for Ballistics & Tool Marks, Handwriting & Documents and Fire Investigation and, in some cases, New Technologies.

The specialist staff of these laboratories technically depend on the Central Laboratory of SECRIM and are also trained to prepare expert reports in their respective areas of action. In those disciplines in which they do not have the qualifications and technical means to continue their research, they request the support of the Central Laboratory.

The SECRIM provides specialized training to the staff of these laboratories and also technical and operational support in the course of investigations of criminal acts, for the analysis of data in forensic databases for the identification of persons, such as fingerprints (SAID), voice recognition, human DNA (DNA), etc., as well as others of a purely technical nature, such as paints, combustion accelerants, counterfeit banknotes, shoe prints, etc.

2.2.3. Society and public safety. Citizenship

The actions of SECRIM are aimed at clarifying the crimes investigated by our units, at the central or peripheral level, in the most effective and efficient way possible. In this way, the ultimate target of all these efforts is public security, the citizenry, who will feel safer the more crimes are solved and the more personnel who commit crimes are placed in the hands of the Justice.

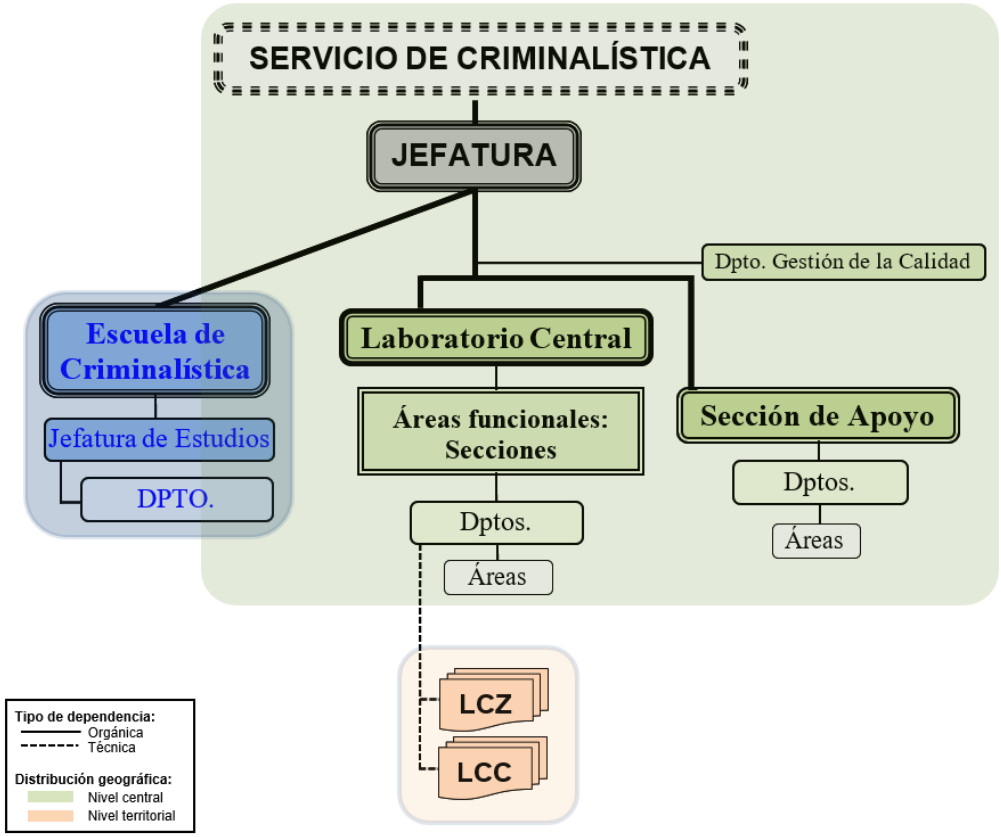
With regard to collaborations with other sectors of society, SECRIM maintains important relations with the academic world, with which it collaborates by providing and receiving specialized training, participating in research projects, or hosting in its different laboratories students who carry out the internships of their respective university degrees, in the field of biology, chemistry, engineering related to new technologies, etc.

2.3. STRUCTURE AND ORGANIZATION OF SECRIM

SECRIM is a central unit of the organizational structure of the Judicial Police Headquarters. It has different levels of dependency on as many subordinate units, which are listed below:

- Organizational and functional dependency:
  - Forensics School.
- Organizational dependency (at the central level):
  - Central Forensics Laboratory.
  - Support Section.
  - Dept. of Quality Management.

- Technical dependency (at the territorial level):
  - Regional HQ Forensics Laboratories.
  - Provincial HQ Forensics Laboratories.



SCHEMATIC REPRESENTATION OF THE ORGANIZATION OF SECRIM ACCORDING TO DEPENDENCIES AND GEOGRAPHICAL DISTRIBUTION OF ITS SUBORDINATE UNITS

Central Laboratory

DEPARTMENT OF CHEMISTRY

Scanning electron microscope for chemical analysis

It carries out numerous forensic chemistry tests, including the analysis **of explosives, drugs, fires, gunshot residues, paints, fibers, organic polymers, glass** and a long list of substances that may have been found at the crime scene.

Testing & Analysis

In more detail, these are described below:

Explosives

- Identification of components of explosives and pyrotechnic devices, their remains and traces (after an explosion, suspected by manipulation...). Identification of Molotov cocktails, impact bombs, salfuman and aluminum explosions.

Drugs

- Qualitative and quantitative analyses of drugs of abuse. Scope: cocaine, heroin, ecstasy, amphetamines, and tetrahydrocannabinol. Others on request.

Fire

- Odentification and determination of combustion accelerant residues from a fire scenario, either structural or forest, or from people who have handled them.

Firearms

- Determination of gunshot residue (you will be able to locate a suspicious person in a scenario where firearms have been used).
- Estimation of the shooting distance.

Textile fibers

- Identification of the composition of a textile garment.
- Comparative study of the textile fibers found in a crime scene (victim of sexual assault, homicide, etc.) and the garments worn by a suspect.

Paints

- Comparative study between a paint flake located at a crime scene (robbery, hit-and-run...) and a paint sample taken from a vehicle, a tool used to force entry.

Glasses

- Identification of the type of glass, determination of its composition.

- Comparative study between a fragment of glass taken from a crime scene (robbery, hit-and-run, etc.) and another fragment taken from a suspicious person (on his shoes, vehicle wheel, floor mat, etc.).
- Determination of the type of fracture: thermal or impact, if applicable, determination of the impact face.

Punctures, cuts, breaks

- Compatibility between a sharp object and a textile garment with a cut.
- Determination of textile fibres in a sharp object.

Adhesive tapes

- Identification of the type of adhesive tape by comparison with a database. Determination of its characteristics, adhesive, constituent matrix.
- Comparative study of a fragment of adhesive tape located at a crime scene with another located at a suspicious person.

Other Trials

- Identification of crystalline substances.
- Identification of solids, liquids, unknown. Collation.
- Analysis of self-defense sprays.
- Polymer Identification Collation.
- Authenticity of precious metals.
- Any chemical test, upon consultation.
- Determination of debris produced in cuts with radials, welders, train brakes, even metal debris from conductors of high-voltage lines in short circuits.
- Vehicle lamps (bulbs).

DEPARTMENT OF ENVIRONMENT

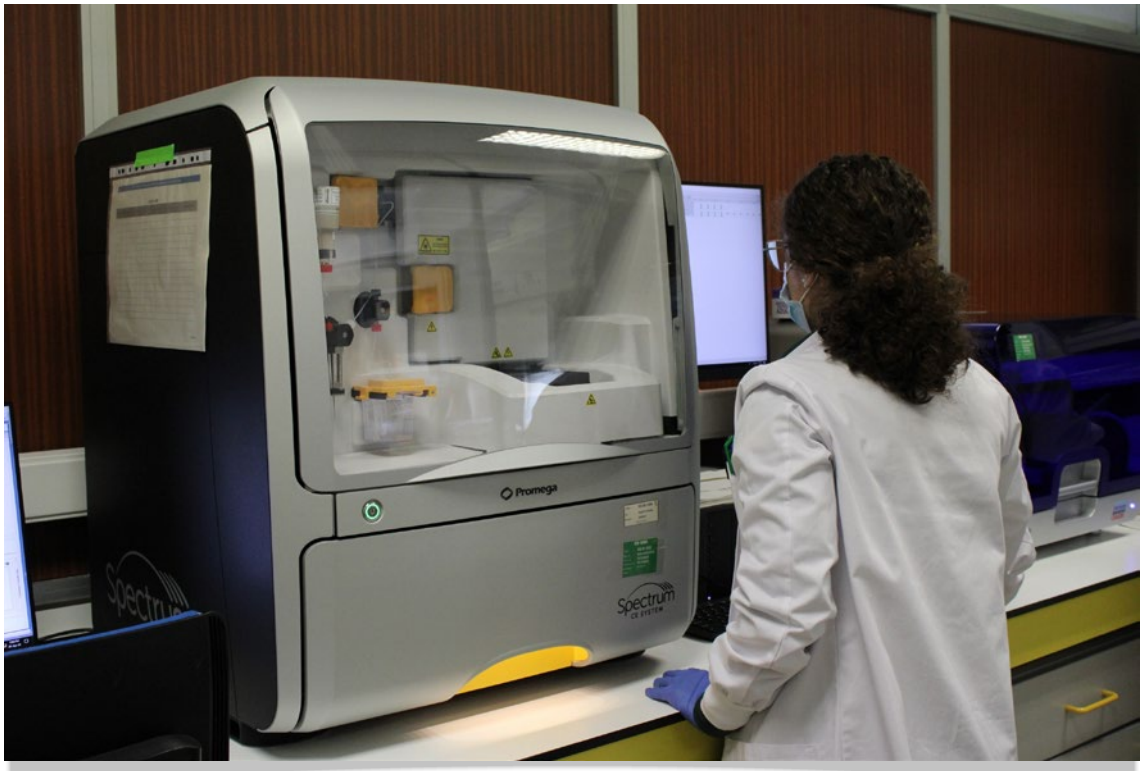
Department of Environment

They carry out tests from an **environmental-criminal** point of view on different matrixes: **water, waste, soil, sediment and air**. They also carry out **non-human genetic** analyses, including the identification of animal species, and **toxicological analyses** of poisoned baits, polluted water, illegal discharges, etc., being, in particular, a **fundamental support** for **SEPRONA** research.

The Department of Environment thus responds to the various analytical needs on different matrixes that may appear in the environmental field such as water, soil and air. **Available trials** include:

- ***Water*** *analysis*: among the parameters to be analyzed are pH, conductivity, dissolved oxygen, oils and fats, COD (Chemical Oxygen Demand), BOD5 (Biological Oxygen Demand), NPOC (Non-Purgeable Organic Carbon), cations and anions, metals and bacteria (Enterococci, Coliforms and Escherichia coli).
- *Analysis of* ***soils****, sludge and solid waste*: Determination of pH, conductivity, analysis of cations, anions, metals, heavy metals and organic compounds.
- ***Air*** *analysis:* fractions of breathable particles smaller than 10 microns (PM10), volatile organic compounds (VOCs) and metals.
- ***Asbestos*** *analysis*: identification of mineral fibers.
- *Identification of* ***toxins, poisons and phytosanitary products****.*
- ***Genetic*** *identification of* ***animal and plant*** species using DNA techniques, as well as the determination of the genetic profile and genealogical compatibility analysis in the most common species which are related to human beings, such as dog/wolf, horse, cow, fence/wild boar, sheep, goat, deer, roe deer, birds of prey (hawk, eagle, goshawk) and bear.
- ***Metrology****:* Every entity that is governed by a quality system needs a control, and it is necessary to carry out measurements that guarantee them, so metrology is a basic pillar in a quality system. Its activities include: calibration of scales, glassware (burettes, pipettes, flasks, etc.), automatic pipettes, temperature measurement systems (thermometers, temperature probes), characterization of isothermal media (refrigerators, freezers, stoves, etc.), caliper gauges and air sampling pumps.

BIOLOGY DEPARTAMENT



DNA sequencing Equipment

It is in charge of the human genetic analysis of the samples sent by the different units of the Civil Guard, as well as those requested by judicial authorities, all of them related to the investigation and investigation of crimes, the **(genetic) identification of corpses and missing persons**.

Human Genetic Assays:

Nuclear DNA

- *Genetic markers STRs on autosomal chromosomes: They constitute the main basis for the genetic identification of people.*
- *Y chromosome STR genetic markers: Characteristic of males, they are especially important in studies related to sexual aggression and kinship, being inherited in bloc, paternally.*
- *X chromosome STR genetic markers: Used, as complementary analyses, in the resolution of complex kinship studies.*

Mitochondrial DNA

- Mitochondrial DNA sequences: It is not an identification tool, although, as it is inherited from mother to children, it allows family relationships to be established through the mother. Due to its origin and characteristics, it is the main analysis in degraded samples.

Database & Technical Reports:

The Database Area of the Department of Biology is responsible, among other functions, for the registration and comparison of genetic profiles obtained from the study of doubtful and indubitable samples related to a criminal offence, identification of a corpse or disappearance, being included in the different databases of DNA of criminal interest (ADNIC) and social interest (FENIX).

Since the information contains personal data, the *«Sample collection and informed consent form for obtaining DNA samples in criminal or social interest matters»* must be completed, which, if correctly completed, guarantees that the donor of the genetic sample has been informed of his or her ARCO rights (Access, Rectification, Cancellation and Opposition, regulated by the Organic Law on Data Protection), as well as that it has been taken voluntarily, free of coercion and in the presence of a lawyer.

At the international level, the Prüm Treaty allows genetic profiles included in the national database to be automatically compared with the signatory countries, allowing the exchange of information related to profiles of interest.

DEPARTMENT OF ENGINEERING

Analysis of electronic equipment

The different areas of this Department receive for their study the **digital evidence** found in criminal scenarios. These clues are of a digital nature **(mobile phones, flash drives, etc.)** They store **information relevant** to the resolution of criminal acts. To this end, forensic techniques are applied in the fields of **computer**, **electronics, image and voice matching**.

Its great specialization allows the use of technologically advanced equipment and tools, as well as the application of state-of-the-art procedures, which are in continuous change as a result of the dizzying digital evolution.

Depending on the subject matter of the expertise, the department is divided into four technical areas: **computer science, electronics, acoustics and imaging**.

In the **Computer Science Area**, devices such as desktop computers, laptops, hard drives, USB sticks, SD cards, etc. that house information are studied, which is acquired, processed and analyzed in order to extract the data of interest for the appropriate investigations.

Its capabilities include the recovery of deleted data, restoration of damaged devices, reading and decryption of data in hidden files, analysis of viruses, trojans and malware, finding passwords to access operating systems and certain programs installed on them or studying unauthorized access to computer equipment using the Internet or other corporate networks that have caused theft, deterioration or loss of data stored therein.

The **Electronics Department** conducts studies on various devices, especially mobile phones. In addition, all the equipment or hardware components of computers, game consoles, frequency jammers, video transmitters, magnetic stripe cards, PDAs, electronic agendas, GPS, vehicle control units, etc., are subject to study.

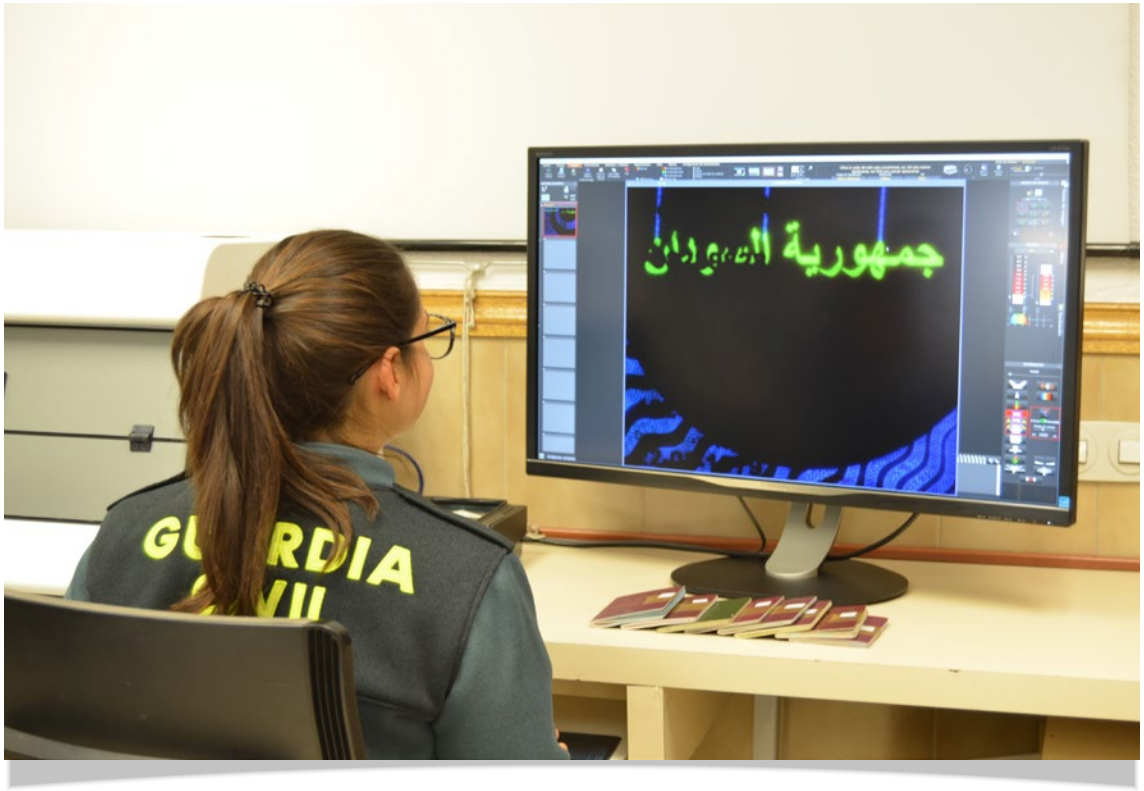
Expert reports related to the extraction of information from mobile phones, messaging conversations, GPS routes, photographs, videos and incriminating documents that are contained in the devices are common.

Digital evidence sometimes contains audio files that may be relevant to the criminal process. For its analysis, the Engineering Department is also articulated in the **Acoustics Area**, specialized in the processing of this type of information, and which develops activities related to audio authentication, to detect if it has been manipulated, or the comparison of voices, to establish plausibility relationships between them.

It also carries out studies within the framework of ambient acoustics, through measurements of acoustic levels, as well as cleaning and improvement of audio recordings, which can make the acoustic information intelligible.

Image or video files can be of great relevance to a criminal proceeding. In these cases, the **Image Area** works on the improvement and authentication of images and videos in digital and analogue formats, through the use of specific forensic tools. They can also establish their originality and authenticity.

HANDWRITING AND MARKS DEPARTMENT



High-resolution macroscope for document analysis

In this Department, **handwritten texts, signatures and all kinds of documents** are analyzed. His field of study also includes the analysis of reproduced, printed or manipulated documents. It has the necessary training to determine the authorship of handwritten texts **in Arabic and Chinese,** being one of the few European laboratories that can cover all these analyses.

It also has the necessary capacity to carry out other types of tests, including the following:

- Study **of cross-referencing of strokes**, to determine the order of sequence of the same.
- Physical analysis of **ink and paper**.

- Identification of **printing machines** for a document.
- Study of **deteriorated documents** (partially burned or immersed in a liquid medium).
- Developing **indentations** (inscriptions or impressions that appear in a latent way on a piece of paper when on a top sheet, and by the use of a writing tool or by the contact, pressure or percussion of mechanical devices, a mark of these characteristics originates).

DEPARTMENT OF BALLISTICS & TOOL MARKS

Ballistics Laboratory

This department studies **all elements** related to **weapons and their ammunition** (cartridges, casings, projectiles, blocks, pellets, etc.), **reconstruction of trajectories**, as well as the places where criminal acts involving firearms take place. Expert reports related to the comparative study of **tools and the marks originating** from them, as well as footprints of footwear, tires, vehicles and their parts, are also carried out.

Ballistics & Tool Marks Area

Functional Ballistics & Tool Marks:

- Operational status **and characteristics of the weapons** (original and transformed) to determine the general characteristics, state of conservation and working condition of the weapons or parts submitted.

- Identification and characteristics of the **ammunition, place of manufacture, weapons that can use it** and to know if it has been reloaded or modified, distinguishing between metallic and semi-metallic ammunition, in order to determine the general characteristics, the state of conservation and the state of preservation and operation.
- Other studies such as **recovery of erased or altered numbers** and cataloguing of the weapons after consulting the Intervention of Arms and Explosives of the Civil Guard. consultation with the Intervention of Weapons and Explosives of the Guardia Civil.

Ballistic identification:

- Matching microscopic comparison of shells and projectiles between dubious and indubitable to **identify the weapon** involved in an incident or its possible implication in previous criminal acts.
- Request of casings and projectiles, whether they are doubtful elements or **evidence extracted from the weapons**, comparing them with those in the physical and virtual archives centralized in the Department.

Operational Ballistics & Tool Marks:

(Reconstruction of shooting scenes).

In relation to the places where impacts from gunshots have taken place, the following can be determined:

- The **caliber** of the ammunition used.
- Determination of **entry and exit orifices.**
- Calculation of **trajectories** described by the projectiles, including the possibility of ricochets.
- **Sequence** of shots.
- Relative **position** between the aggressor and the victim.
- **Possibility of hitting the target** from a given point or area.
- Calculation of the **firing distance** and maximum and effective range of a weapon.

Effects Ballistics & Tool Marks:

Refers to everything that happens to a body (human, animal, object...) at the moment a projectile hits it.

The effects produced depend on: type of weapon used, ammunition used, distance and angle of shot, interposition of other bodies or elements between the impacted body and the weapon firing the projectile, and nature of the impacted body, among other variables.

Instrumental Tracing Area

Each tool univocally determines certain signals or imprints, in such a way that these in themselves constitute its «identifying trace». The object of study is all the expertise related to the comparative analysis of marks given by tools, shoe prints, tire tracks and similar.

Footwear and tire tracks:

- **Comparative study footprint/ undoubted shoe print**. Criminal records. Comparison in database of footwear prints (SICAR).
- Type of **tire and characteristics**. Possibility of determining the type of vehicle by tire and axel measurements.

Forensic tools and locksmithing

- **Tool/part** comparative study. Cuts and determination of the tool that produced them.
- Study of **forcings**: false keys, locks, bolts, latches, etc.

Vehicle identification

- Identification of **burned or dismantled vehicles/parts**.
- **Recovery of erased or altered die-cut numbers on chassis**, gearboxes or engines.
- General study of **Spanish and foreign license plates** (general study and identification of homologation/ handler passwords). Identification between die-cutting machine and license plates.

Other types of studies

- Counterfeiting of metallic currency or pieces that imitate it.
- Study of knots.

CRIME SCENE DEPARTAMENT

Central Crime Scene Investigation Team (ECIO)

It is structured in the areas of **Crime Scene Investigation** and **Photography and Computer Graphics**. It has a **Central Crime Scene Investigation Team (ECIO),** which travels **nationally and internationally** to provide the support required to carry out Crime Scene Investigations (ITOs) at crime scenes; and another Forensic Computer Graphics team, which also travels nationally and internationally to recreate virtual scenarios and criminal events.

Crime Scene Investigation Area

The Crime Scene Investigation (ITO) is the first step of an investigation and therefore, it acquires a transcendental relevance that can determine the success of the investigation. It is, undoubtedly, an unrepeatable and irreproducible act in the same conditions in which the criminal act originated.

The personnel of this Area attends to numerous and very diverse crime scenes that require a wide knowledge of all the expertise carried out in the Servicio de Criminalística of the Guardia Civil. Among its ***missions*** we can highlight the following:

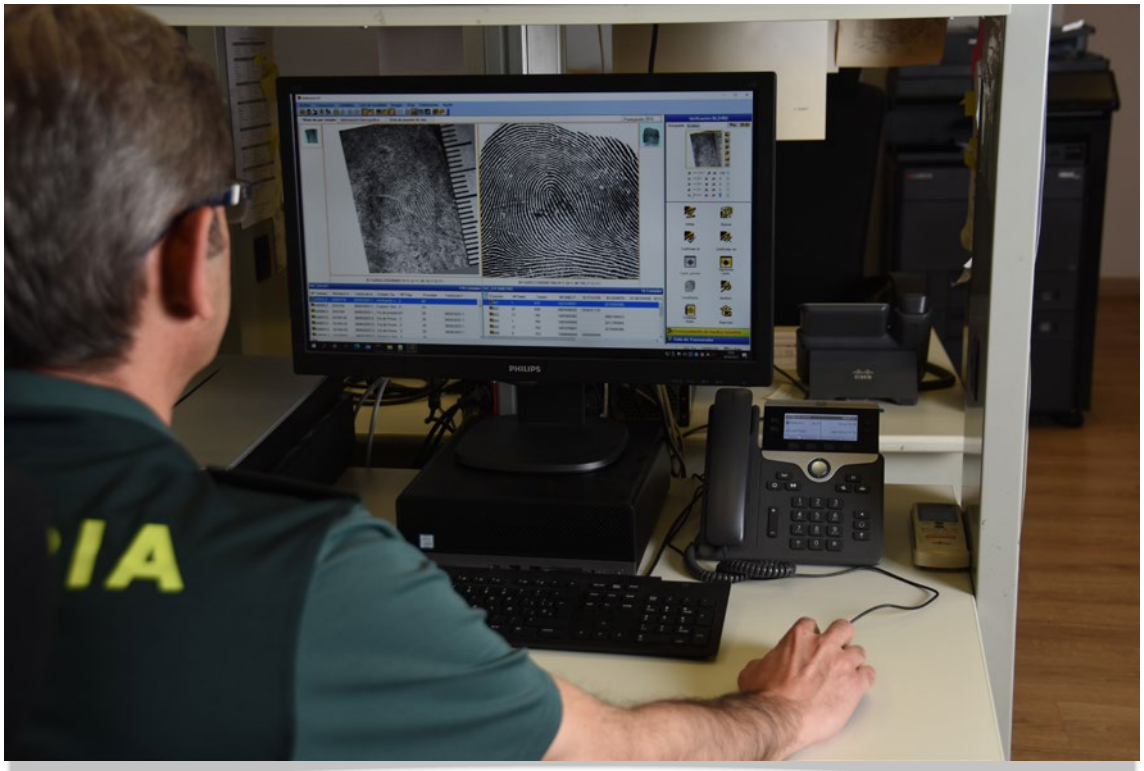
- To carry out the Crime Scene Investigations requested by the Courts, Tribunals, Public Prosecutor's Office or Units of the LEA.
- To provide the technical-operational support required by the Judicial Authority, Prosecutor's Office, or Operational Units of the Guardia Civil within the scope of their competencies.
- To constitute the Crime Scene Group of the Disaster Identification Team (EIC). (Royal Decree 32/2009, of January 16, which approves the National Protocol for Forensic Medical and Forensic Science Police action in events with multiple victims).
- To establish the criteria of use and doctrine of the Units, **elaborating the Technical Manuals** on the matters pertaining to their specialty.
- To prepare the **training and updating plans** for the personnel assigned to the Crime Scene Investigation Area, in the Provincial HQ Forensic Laboratories and in the Structural Fire Investigation Teams, as well as to impart those that are approved.

Area of Photography and Computer Graphics

Performs the following studies:

- Study of forensic images, **photographic image authentication**. **Analysis of metadata in digital images** obtained by photographic cameras.
- **Crime scene processing.**
- Studies in cases of **ballistic trajectory reconstruction.**
- Study on **projection origin of blood patterns**.
- Recreation of **dynamic animations** of criminal events.
- Obtaining 3D models from T.A.C. (**virtual autopsy**).

IDENTIFICATION DEPARTAMENT



Fingerprint image in Automated Biometric Identification System

They carry out expertise related to the identification of persons, mainly using lophoscopic, anthropological, radiological and odontological methods. The Disaster Identification Team (EIC) is part of this Department and has experts in the identification of persons (lophoscopy, physiognomic, odontology, anthropology, DNA, etc.) and technical material (X-ray, microscopes, photography, video, odontology, laboratory trucks, etc.).

In order to carry out the Expert Reports the Department technically manages Databases (Automatic Fingerprint Identification System, Missing Persons and Human Remains) and shares and exchanges records with other LEAs and International Organizations involved in the same work area.

SAID Area

The Automatic Fingerprint Identification System (SAID/AFIS), in operation in the Guardia Civil since 1989, whose owner is the Security Department of the Ministry of Interior, is a tool that is essential today in the investigation for the clarification of criminal acts, and with which any LEA should have among its investigative options.

The SAID is a system that digitally processes the **Iophoscopic reviews of Arrested Persons**, and of **Anonymous Fingerprints** revealed in the Crime Scene Investigations carried out on the occasion of criminal acts, in their respective Databases.

This system has the capacity and possibility of interconnecting with other countries' SAID systems. Because of the Prüm Treaty, the Identification Department has achieved interconnection with the Iophoscopic databases of Member States.

Forensic Anthropology Area

- **Robot-Portrait**: Identification of a person through the reproduction of facial features provided through specific computer programs, by means of a personal interview with a witness or victim, capable of remembering the physiognomy of the alleged perpetrator. Support is provided to the territorial units through the Robot – Portrait Team.
- **Physiognomical studies**: Preparation of expert reports on facial identification, by means of superposition, anthropometric or morphological techniques.
- **Other studies**: Reconstruction, aging and facial characterization.

Lofoscopic Identification Area

- Preparation of **expert reports on Identities**, terrorism, fingerprints provided by the Crime Scene Investigation Team.
- **Supervision and validation** of Iophoscopy expert reports prepared by ENAC-accredited or non-ENAC-accredited crime laboratories.
- **Training and support** to the Provincial HQ Forensic Laboratories.
- The main mission of the **Necro-identification** Sub-area is the identification of deceased or amnesiac persons, using technical-scientific methods to determine the identity of a person (corpse and human remains) after death has occurred.

Other missions:

- As personnel of the multidisciplinary team of Disaster Victim Identification (DVI) of the Guardia Civil, both in the Post-Mortem and Ante-Mortem Team, whose performance extends to the entire national territory, and abroad in those incidents where it is of the application of Royal Decrees 2394/2004 and/or 32/2009 (natural disasters, accidents or terrorist attacks) of national or foreign citizenship and Spanish military personnel in International Missions.

DEPARTMENT OF RESEARCH, DEVELOPMENT AND INNOVATION (R+D+I).

SECRIM´s Innovation Projects

Forensic investigators must have a solid scientific basis that favors the objectivity and reliability of their conclusions, which must be reached using scientific techniques and methods. This requires continuous **research and development** of new methods and techniques, as well as the application of **new technologies** to the field of criminalistics.

The SECRIM's R+D+i Department is responsible for carrying out this work, mainly through collaboration with universities and companies in the sector, as well as fostering relations and cooperation with other similar institutions, both national and international.

It is also in charge of managing, as **SECRIM's Communication Office**, relations with the media and social networks.

Operational Teams of the Criminalistics Service

SECRIM EIC deployment

In order to carry out its operational work, SECRIM has the following **Mobile Teams**, which travel to the crime scene, at the request of the Investigating Units, Courts and Judicial and Prosecutorial Authorities:

- **Portrait-Robot Team (1986).** Belongs to the Identification Department, they are specialists in physiognomy, forensic anthropology, artistic drawing, fine arts, etc.
- **Handwriting & documents Team (1989).** It is part of the Handwriting and Documents Department, they are specialists in handwriting and documents. They analyze writings and signatures on documents. They have been accredited by ENAC since 2010, being this staff pioneer in Spain in this type of accreditation.
- **Disaster Identification Team -EIC- (1992).** Formed by specialists from the Identification, Crime Scene and Biology Departments. They attend events with multiple victims or catastrophes occurring at national or international level, and participate in simulations. They have **more than 30 interventions** and have treated and identified around **1,000 corpses**. These personnel have been accredited by ENAC in DNA since 2003 (first laboratory in Spain), and in Lophoscopy since 2010.

- **Operational Ballistics & Tool Marks Team (1998).** Attached to the Department of Ballistics & Tool Marks, they are specialists in functional, identification, operational and effects Ballistics & Tool Marks, and carry out expertise in the reconstruction of **shot trajectories and effects.**
- **Vehicle Identification Team (2000).** Part of the Ballistics & Tool Marks Department, they are specialists in the study of engine, VIN, chassis numbers, diagnosis and tire tracks.
- **Engineering Team (2002).** Belongs to the Engineering Department, they are specialists in the acquisition of digital evidence, mainly in hard disk cloning (accredited by ENAC), data extraction from computer servers, etc. Since 2007, they have been providing operational support in the extraction, processing and analysis of cell phone devices.
- **Crime Scene Investigation Team -ECIO- (2004).** Attached to the Crime Scene Department, they are specialists in Crime Scene Investigation, their main mission is to act in serious events or of great social repercussion at national and international level. In 2015 this staff was pioneer in Spain in accrediting the Crime Scene Investigation in vehicles, and in 2019 it has been extended to open and closed places.
- **Forensic Computer Graphics Team (2005).** Depends on the Crime Scene Department, they are specialists in computer graphics and photography, their work consists of reconstructing and animating criminal scenarios in three dimensions (3D), using state-of-the-art scanners and equipment for capturing movements of the characters. In 2005 this team pioneered this technique at police level in Spain.

All these teams and their excellent expert staff carry out the operational activity of SECRIM outside its headquarters in Madrid, and constitute the **operational forensics** outside the laboratories themselves.

SECRIM's territorial structure

Technically depending on the SECRIM, there is a territorial structure made up of the Regional HQs Forensics Laboratories and the Provincial HQs Forensics Laboratories.

The **Regional HQs Forensics Laboratories** are located in certain Autonomous Communities and bring together a functional demarcation of different provinces in close proximity to each other.

They have sufficient means to prepare expert reports in Ballistics & Tool Marks, Handwriting & Documents and Structural Fire Investigation, and in some cases in New Technologies (Valencia Regional HQ).

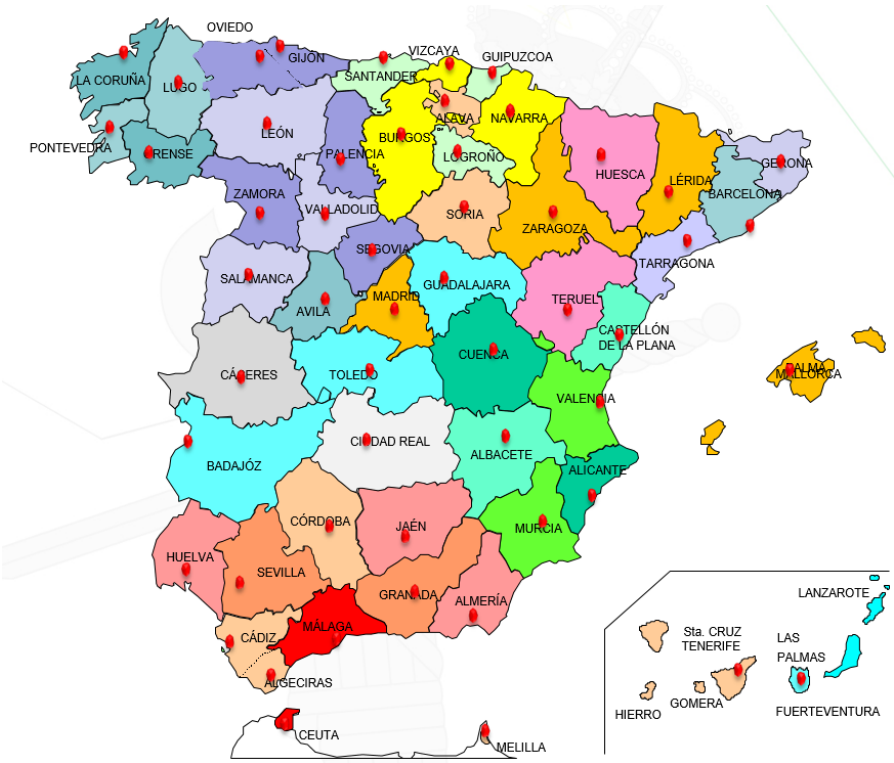
Distribution:

Central Laboratory: Madrid, Extremadura, Guadalajara, Toledo, Ciudad Real and Canary Islands. Headquarters in Madrid.

- LCZ of Andalusia: Andalusia, Ceuta and Melilla. Headquarters in Seville.
- LCZ of Valencia: Valencian Community, Cuenca, Albacete and Murcia. Headquarters in Valencia.
- LCZ of Catalonia: Catalonia, Aragon and Balearic Islands. Headquarters in Barcelona.
- LCZ of La Rioja: Basque Country, Cantabria, La Rioja, Navarra, Burgos and Soria. Headquarters in Logroño.
- LCZ of Castilla y León: Castilla y León (except Burgos and Soria), and Asturias. Headquarters in León.
- LCZ of Galicia: Galicia. Headquarters in La Coruña.

The Provincial HQs Forensics Laboratories are located at the head of each of the 54 Provincial HQs that currently make up the territorial deployment of the Guardia Civil (provincial level, in addition to Ceuta, Melilla, Algeciras and Gijón) and are part of the Judicial Police Unit of their respective Provincial HQs.

These laboratories are in charge of developing the first steps of the forensic investigation. The Crime Scene investigation is their primary function and they are trained to search, develop, photograph and match fingerprints when they do not require special procedures.



2.4. INTERNATIONAL COLLABORATION

SECRIM carries out important collaboration work at an international level, participating in the working groups of the European Network of Forensic Science Institutes (ENFSI). In these working groups of different forensic disciplines, information is exchanged, protocols and analytical methods are homogenized, intercomparison tests are organized between laboratories to evaluate quality systems and joint projects are carried out.

For years, work has been underway on the creation of the so-called «European forensic space», in which the European Network of Forensic Science Institutes (ENFSI) is playing an important role.

Due to its participation in this European network, which has been mentioned as a reference for forensic science, the Guardia Civil has achieved a recognized prestige in the international forensic scientific community, participating in all the ENFSI working groups.

It also participates in several working groups organized by INTERPOL, among which the following stand out

- Standing Committee on Disaster Victims.
- Automated Fingerprint Identification Systems Expert Working Group (AFIS Expert Working Group)
- Fingerprint Expert Working Group (EFPWG).

In order to maintain the commitment to continuous and qualified training of the staff of the SECRIM, there are constant teaching activities carried out with different international institutions, both to receive specific training and to collaborate in its delivery. In recent years, forensic training has been provided to institutions in France, Israel, Tunisia, Algeria, Jordan, Nicaragua, Turkey and Honduras, among other countries.

This broad international collaboration, together with compliance with the requirements of the ISO 17020 and ISO 17025 reference standards, means that in many cases the expert reports drawn up by SECRIM are perfectly valid and recognized as such in other countries and vice versa.

3.

QUALITY OF SERVICE

In the race for quality there is no finish line.

David T. Kearns (1930-2011), American businessman and politician.

SECRIM has a Quality Management Department created in 2003 with the aim of implementing an adequate quality system, applicable to its entire network of laboratories. This Department, which reports directly to the Head of the Service, functions as an advisory and driving force in decision-making on laboratory policy and operation.

Through this department, SECRIM has established a quality policy in accordance with the standardization norms: UNE-EN-ISO 17.025 «general requirements for the competence of testing and calibration laboratories», and UNE-EN-ISO 17020 «requirements for the operation of different types of inspection bodies», for the performance of the Crime Scene Investigation, together with the ILAC G-19 Guide on modules of the forensic process.

Our Quality Management System pursues the best performance through accreditation and forensic activities developed by the National Accreditation Entity (ENAC).

Assuming these quality commitments requires SECRIM laboratories to undergo the mandatory external and internal audits and to monitor any deviations that may occur with respect to the correct work system.

3.1. LABORATORY ACCREDITATION

ENAC
Entidad Nacional de Acreditación

National Accreditation Entity

In 2003, it was formally recognized as the first accredited crime laboratory in Spain and one of the first in Europe. The National Accreditation Entity accredited the technical competence of this Laboratory in this type of expertise under the requirements of the UNE-EN-ISO 17025 standard with the following scope:

«Identification and Genetic-Forensic Analysis of Human Tissues and Fluids» (Exp. No. 383/LE776)

This scope includes all DNA analyses aimed at human identification using nuclear and mitochondrial DNA.

The ENAC seal is a **plus of confidence** in the excellent work carried out by the specialist staff of the Service, since it guarantees the qualification of the personnel who carry out the surveys, the maintenance and management of the analytical equipment and the adequate review and monitoring of the work protocols.

In 2006, as an institutional commitment to the protection of the environment, SECRIM obtained accreditation for environmental testing with the following scope: «physico-chemical, microbiological, chromatographic and spectroscopic analyses on continental, wastewater and drinking waters» (Exp. No. 383/LE1151).

Activities carried out by an EU forensic laboratory, accredited in accordance with EN ISO/IEC 17025, are recognised as equally reliable by the responsible authorities of another Member State. This is stated in Council Framework Decision 2009/905/JHA of 30 November 2009 on the accreditation of forensic service providers in laboratories.

In September 2010, the scope 383/LE776 was extended to other forensic tests (Handwriting & Documents, Ballistics & Tool Marks, Lophoscopy, Acoustics, Soils...) under the protection of the UNE-ISO 17025 standard (extended to the Peripheral Area Laboratories since June 2016), encompassing a large part of the expert activity carried out in Lophoscopy and Handwriting & Documents.

Already in 2015, accreditation was obtained for the activities of Crime Scene Investigation in vehicles, with file number 314/EI520, also being pioneers in Spain and in most international forensic entities.

The scope of this decision applies to any laboratory activity aimed at locating and retrieving evidence on test objects, as well as analysing and interpreting forensic evidence, in order to produce expert opinions, all related to human DNA profiling and dactyloscopic data.

In accordance with this requirement, the study and comparison of «fingerprint data» was implemented and accredited in the Provincial HQs Forensic Laboratories, under the supervision and control of the Identification Department of the Central Laboratory and in accordance with the requirements established in the Quality Management System.

This line of action has led to the standardization of all management and technical procedures under the same criteria, including aspects related to equipment, material, personnel, expert and technical reports, quality controls, etc.

The inclusion of all the Laboratories within the same and unique Quality Management System has allowed, by extension, to gradually incorporate them into the testing accreditations that have previously been

implemented in the Central Laboratory. SECRIM currently has 63 accredited trials in 61 different locations throughout Spain.

The latest advances in accreditation have been obtained in the field of Handwriting and Documents (handwritten documents in Arabic script) and Biology (statistical assessment of the X chromosome in DNA profiles according to three accreditation dossiers, each of which covers different scopes:

- Forensic Tests: 383/LE776.
- Environmental Testing: 383/LE1151.
- Crime Scene Investigation: 314/EI520.

3.2. ACCESS TO THE QUALIFIED PERSONNEL SERVICE AND CONTINUOUS TRAINING

> *(The Station Provincial HQer)... they are also responsible for ensuring that the Guards are constantly engaged in perfecting their primary training (..)*
>
> Cartilla del Guardia Civil, 1845

The specialty of Forensic Science integrates the set of capabilities that enable members of the Guardia Civil belonging to the scales of Officers, Officers of Law 29/2014, Non-Commissioned Officers and Corporals and Guards, to carry out the general functions of Criminalistics. It is configured with the following modalities with their respective specific functions:

a. **Directorate (CRD):** enables the performance of managerial actions in the Servicio de Criminalística (SECRIM) and in the Regional HQ Forensic Laboratories (LCZ).
b. **Laboratory Technician (CRBS):** enables the performance of technical-scientific and operational functions in the Provincial HQ Forensic Laboratories (LCC), management of material resources and databases of forensic, administrative, and quality interest, all in the field of Criminalistics.
c. **Operational Technique (CRTO):** enables the performance of functions in the SECRIM and in the technical-scientific and operational LCZ, management of material resources, databases of forensic interest, administrative, R+D+i and quality, all in the field of Handwriting and Documents, Lophoscopy and Crime Scene Investigation.

d. **Anthropology (CRA):** enables the SECRIM to carry out technical-scientific and operational functions, management of material resources, databases of forensic interest, administrative, R+D+i and quality, all in the field of Forensic Anthropology.
e. **Biology (CRBI):** enables the performance of technical-scientific and operational functions in the SEGRIM, management of material resources, databases of forensic interest, administrative, R+D+i and quality, all in the field of Forensic Genetics.
f. **Physics (CRF):** enables the performance of functions in the SECRIM and in the technical-scientific and operational LCZ, management of material resources, databases of forensic interest, administrative, R+D+i and quality, all in the field of Ballistics & Tool Marks.
g. **Engineering (CRI):** enables the performance of functions in the SECRIM and in the technical-scientific and operational LCZ, management of material resources, databases of forensic interest, administrative, R+D+i and quality, all in the field of Digital Support.
h. **Chemistry (CRQ):** enables the performance of technical-scientific and operational functions in the SEGRIM, management of material resources, databases of forensic interest, administrative, R+D+i and quality, all in the field of Analytical Chemistry.

As stated in Order PCM/812/2023, of 18 July, and in view of the need to maintain the quality standards of the specialty of Criminalistics, the **Forensics School** is created within the structure of the Guardia Civil and under the dependence of the Central Forensics Unit, to organize and teach all the improvement courses that are carried out within the different modalities that make up this specialty, aimed at obtaining the respective specific qualifications CRD, CRBS, CRTO, CRA, CRBI, CRF, CRI and CRQ.

Framed under an organic and functional dependency of the SECRIM, the Forensics School is responsible, among other functions, for:

a. To design the specialization curricula and training programs for the continuing education activities it provides.
b. To teach the necessary courses so that its students acquire, after passing, the specific qualifications of the specialty of Forensics in its different modalities.
c. To carry out research, studies, trials and tests of interest for the improvement of the techniques, procedures and means to be used in the Forensic units.

For the acquisition and maintenance by staff of the required technical qualifications, SECRIM has an Annual Training Plan that guarantees learning and permanent and continuous training. In addition, the different Departments of the Service have a permanent training and evaluation program for all their specialists.

In this way, it is guaranteed that access to the different degrees of responsibility is in accordance with the merits, capacity and qualifications of the personnel, regardless of the degree held. For this reason, SECRIM has descriptive sheets of the merits necessary to occupy each job, as well as «education and training records» that are also specific to these jobs.

3.3. RESPECT FOR THE ENVIRONMENT

The Guardia Civil is the only Law Enforcement Agency in our country that has a specific environmental laboratory, following the path already started in this field by the Nature Protection Service (SEPRONA), which was already the first police force dedicated exclusively to the protection of the environment. As mentioned, since 2006 SECRIM has been ENAC accredited according to the UNE-EN ISO/IEC 17025 standard, for the performance of tests in the environmental sector.

With regard to waste, in order to reduce and avoid risks to personnel and the environment in general, SECRIM has implemented a system for managing the waste generated by the different laboratories, through which it is classified and delivered to authorized management personnel with whom there is a service contract for the destruction or disposal of waste, including toxic or dangerous ones.

This management system includes all the waste generated in the Crime Scene Investigation activities and the tests that are carried out, both at the scene of the event and in the facilities of the laboratories throughout the Network. These are specific forensic materials that have reached the end of their useful life, such as used or expired reagents, as well as the remains of evidence and samples on which work has been carried out and which are in the custody of laboratories.

3.4. QUALITY ASSESSMENT AND COMPLIANCE

SECRIM has a system for evaluating the quality of the activities and forensic tests it carries out, in order to ensure the effectiveness and reliability of its results.

The different techniques or activities used are:

- Periodic supervision of the activities by the Head of Management, the Technical Manager or the Specialist, qualified in the activity to be supervised (peer review). In the case of Expert Reports, supervision is

carried out in all cases by a 2nd qualified Specialist on the indications/samples and records initially generated by the first.

- Repetition of the activity (e.g. trial), or blind sampling, using the same or different methods.
- Conducting drills or exercises according to a documented procedure.
- Participation in intercomparison exercises with other laboratories (proficiency tests or collaborative exercises).

It also has established an annual audit plan that is carried out by both internal and external audit teams. Within the framework of this plan, each department must be audited at least once a year and the various laboratories on a regular basis.

3.5. SUBMISSION OF COMPLAINTS AND SUGGESTIONS. SATISFACTION SURVEYS

In order to assess the degree of conformity with the service provided, SECRIM conducts satisfaction surveys both to the Judicial and Prosecutorial Authorities, the final recipients of its expert reports, and to the staff of different laboratories of the Network linked to SECRIM under its technical dependency. Likewise, a procedure has been established for the submission of complaints and suggestions, which includes appeals by the client/user staff of the service, and this expression of non-conformity with a specific test or activity is ruled by the SECRIM itself, either ex officio or on the initiative of the client staff.

4.

ADDITIONAL INFORMATION

Addresses of interest and contact details

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http://www.guardiacivil.es/imagenes/textoservicios/PlanoOIAC.jpg

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Departments

Department	Extension
Identification	6546293
Crime Scene	6546312
Digital Engineering	6542561
Handwriting & Documents	6542097
Ballistics & Tool Marks	6546291
Chemistry	6546216
Environment	6546752
Biology	6548360
Quality Management	6548357
R+D+i	6546132
Organization	6542031
Computer Technical Support	6548701
Request Management	6542102

Regional HQ Laboratories

Regional HQ	City	Phone nº	Extension
Catalonia	Barcelona	+34 934430509	260/270/301
Galicia	A Coruña	+34 981167800	288
Castilla y León	León	+34 987253211	2149
La Rioja	Logroño	+34 941229900	
Andalusia	Seville	+34 954231902	296
Community of Valencia	Valencia	+34 963896500	574

Provincial HQ Laboratories

Provincial HQ	City	Province	Phone nº	Extension
A Coruña	A Coruña	A Coruña	+34 981167800	291
Álava	Vitoria	Álava	+34 945214346	1443
Albacete	Albacete	Albacete	+34 967218600	256
Algeciras	Algeciras	Cádiz	+34 956587610	277
Alicante	Alicante	Alicante	+34 965145660	282
Almería	Almería	Almería	+34 950256122	5167
Ávila	Ávila	Ávila	+34 920224400	241
Badajoz	Badajoz	Badajoz	+34 924205750	127
Barcelona	Sant Andreu Barca	Barcelona	+34 936823030	2884
Bizkaia	Bilbao	Bizkaia	+34 944253400	1720-1730
Burgos	Burgos	Burgos	+34 947244144	443-450
Cáceres	Cáceres	Cáceres	+34 927628150	106
Cádiz	Cádiz	Cádiz	+34 956293408	517

Provincial HQ	City	Province	Phone nº	Extension
Castellón	Castellón	Castellón	+34 964224600	106
Ceuta	Ceuta	Ceuta	+34 956502760	4267
Ciudad Real	Ciudad Real	Ciudad Real	+34 926221180	244
Córdoba	Córdoba	Córdoba	+34 957414111	2281
Cuenca	Cuenca	Cuenca	+34 969220500	280
Gijón	Gijón	Asturias	+34 985385800	113-150
Girona	Girona	Girona	+34 972208650	2403
Granada	Granada	Granada	+34 958185400	480
Guadalajara	Guadalajara	Guadalajara	+34 949247980	
Huelva	Huelva	Huelva	+34 959241900	279
Huesca	Huesca	Huesca	+34 974210342	280
Illes Balears	Palma de Mallorca	Illes Balears	+34 971774100	142
Jaén	Jaén	Jaén	+34 953295846	1234
La Rioja	Logroño	La Rioja	+34 941229900	2120
Las Palmas	Las Palmas de Gran Canaria	Las Palmas	+34 928320400	268
León	León	León	+34 987253211	2139
Lleida	Lleida	Lleida	+34 973249008	221-242
Lugo	Lugo	Lugo	+34 982221311	5164
Madrid	Tres Cantos	Madrid	+34 918073900	44812-44814
Málaga	Málaga	Málaga	+34 952071520	1666
Melilla	Melilla	Melilla	+34 952696033	1312
Murcia	Murcia	Murcia	+34 968234565	267
Navarra	Pamplona	Navarra	+34 948296882	

Provincial HQ	City	Province	Phone nº	Extension
Orense	Orense	Orense	+34 988235353	278
Oviedo	Oviedo	Oviedo	+34 985119000	126
Palencia	Palencia	Palencia	+34 979165822	139
Pontevedra	Poio	Pontevedra	+34 986807900	260-261
Salamanca	Salamanca	Salamanca	+34 923127200	323
Sebastián	San Sebastián	San Sebastián	+34 943276611	2286-2288
Santa Cruz de Tenerife	Santa Cruz de Tenerife	Santa Cruz de Tenerife	+34 922648500	373
Santander	Santander	Cantabria	+34 942321400	2339
Segovia	Segovia	Segovia	+34 921426363	230
Sevilla	Sevilla	Sevilla	+34 954939700	241
Soria	Soria	Soria	+34 975220350	270
Tarragona	Tarragona	Tarragona	+34 977237777	1291
Teruel	Teruel	Teruel	+34 978601300	243
Toledo	Toledo	Toledo	+34 925225900	168
Valencia	Valencia	Valencia	+34 963174660	329
Valladolid	Valladolid	Valladolid	+34 983296666	213
Zamora	Zamora	Zamora	+34 980521600	781
Zaragoza	Zaragoza	Zaragoza	+34 976711400	332-333
Forensics School	Madrid		Madrid	

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