

# For2-BioB

## Management and development of forensic biobanks at operational and policy levels in Belgium

DURATION  
1/02/2023 - 1/05/2025

BUDGET  
444 528 €

### PROJECT DESCRIPTION

For several decades, DNA has completely reconfigured the process of forensic truth-telling. Although DNA has been used in the Belgian judicial system since the early 1990s, it was the law of March 22, 1999 that allowed DNA to take its rightful place in the arsenal of judicial investigation techniques. It provided a clear and stringent legal framework defining the possibilities for its use and organizing the recording and exploitation of DNA profiles in several databases managed by the *Institut National de Criminalistique et de Criminologie* (INCC).

Although the social uses of DNA have diversified, from genetic testing in the medical area to recreational ancestry DNA testing, forensic genetic data are still collected and handled only by the justice apparatus and solely for criminal purposes. The current legal framework defines DNA exploitation in a hermetically sealed way, solely for identification purposes, and isolates the forensic use of DNA from any other genetic database. Raising the question of the relevance of this closed character, the For2-BioB project aims to initiate an open and thorough reflection regarding the applicable regulations in Belgium (especially about the options chosen abroad and at an international level) as well as developments in the genetic sciences. The project entails considering a number of avenues to strengthen the efficiency while using the national DNA databases (BNDG) and suggesting innovative scenarios to the legislature to improve the legal framework governing this specialized field.

Managed jointly by the *Institut National de Criminalistique et de Criminologie* (INCC) and the *Centre de recherche interdisciplinaire sur la déviance et la pénalité* (CRID&P, UCLouvain), the **For2-BioB project** aims to improve the organization and functioning of BNDG as tools for the production of legal truth but also to ensure compliance with both ethical and legal constraints in an environment marked by regular and significant progress. In order to achieve these goals, a two-pronged work has been defined:

**The first « organizational » part** of the project aims to improve the use of DNA databases in criminal matters and their associated technologies. It considers field workers' practices, new technologies and their development opportunities, as well as demographic changes resulting in evolutions in genetics.

This first part involves carrying out several specific tasks. It focuses on the possible effects of expanding the criteria for inclusion of DNA profiles in the BNDG on their efficiency. This expansion will increase the DNA profiles available for matching. However, highlighting matches based on poor-quality DNA profiles can lead to unintended outcomes (false positive results). The purpose is then to find the ideal *ratio* between the number of profiles included and the relevance of the matches communicated to justice services. It requires considering the composition of a profile (the number of microsatellites) and the statistical evaluation of the rarity of a DNA profile in the population.

Simultaneously, researchers have to question the use of the statistical models used to determine the probability of a random match. In this respect should be examined which reference population is applicable for the interpretation.

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**The second part of the project focuses on ethical questions and the legal framework regarding the uses of DNA.** It will offer various scenarios intended to feed into the legislature and the experts' thinking to overhaul the applicable regulation completely. Indeed, the legal framework is subject to developments to account for technical progress, legal changes at the European level, and the transformation of criminal policies.

In this respect, the research project aims to identify the "legal invariants" at the international, mainly European, level. Then, within this framework, all of the possibilities open to the legislature to push forward the current legal regime will be provided, considering the potential of current technologies and their developments. A comparative-law study, firstly broad and exploratory and then targeted and thorough, should provide a set of solutions and an analysis of the field practices that will be led using the strategic actor theory.

**The For2-BioB project** is part of a technical, operational, and regulatory approach, steadfastly pragmatic and prospective. It builds on an interdisciplinary team of experts in forensics, biostatistics, criminology, and law.

## CONTACT INFORMATION

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## LINKS

<https://nicc.fgov.be/for2-biob>