KEY IMPACT AREAS:
A THREE-STAGE INNOVATION PIPELINE

01

CRIMINAL INVESTIGATIONS
(OPEN/COLD CASES)

Our aim:
To provide investigative leads in cases where traditional DNA profiling fails to find a match.

The solution:
The project is developing the DNAm somatic kit and DNAm germ-line kit to enable age estimation, identification of tissue-of-origin, and inference of lifestyle habits (e.g., tobacco/alcohol use) from trace DNA samples, narrowing the pool of potential suspects.

02

HUMAN REMAINS´ IDENTIFICATION
(DVI)

Our aim:
To expedite the identification process of missing persons in mass disasters or grave sites.

The solution:
The DNAm DVI kit will use epigenetic age estimation to guide the identification of human remains, improving the efficiency of victims' identification and bringing closure to grieving families.

03

LEGAL AGE ASSESSMENT
(ASYLUM CLAIMANTS)

Our aim:
To introduce a safer, high-accurate, and non-radiological method for assessing legal age.

The solution:
The DNAm legal age kit will employ advanced epigenetic analysis on 3rd Next Generation Sequencing (NGS) technologies to provide a high-accurate age estimation, serving as a radiation-free alternative to X-rays.

SCAN ME

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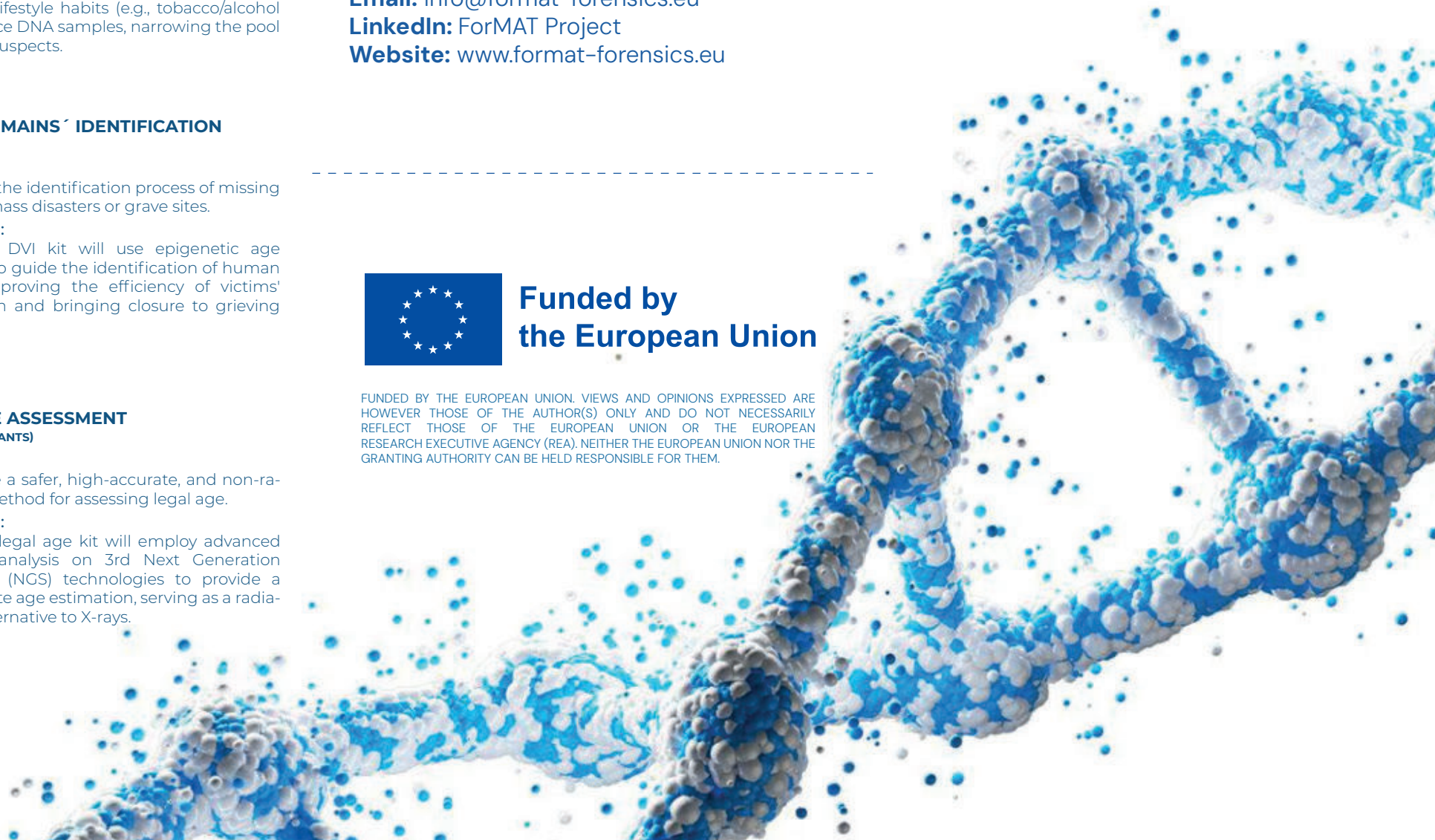
FORMAT

FORENSIC METHYLATION ANALYSIS TOOLSETS



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THE CHALLENGE:

Traditional forensic DNA methods struggle with complex cases, often yielding no direct identification. This leaves many criminal cases unsolved, delays the identification of human remains, and requires outdated, radiation-based methods for age assessment of asylum claimants.

THE MISSION:

ForMAT is developing and validating advanced, ethical epigenetic tools that analyze DNA methylation (DNAm). This approach provides crucial investigative intelligence like age estimation, tissue identification, and lifestyle inference from trace evidence.

OUR OBJECTIVE:

To produce four validated DNAm Kits and a powerful, user-friendly Bioinformatic Tool to bring forensic DNA intelligence from TRL 5 to TRL 7 for widespread European adoption.

01. SELECTION:

Identifying high-accurate DNAm markers for age, tissue, and lifestyle prediction from diverse human tissues.

02. DEVELOPMENT:

Creating four specialized DNAm kits (somatic, germ-line, DVI, legal age) optimized for 2nd and 3rd NGS technologies.

03. MODELLING:

Developing accurate statistical prediction models and consolidating them into the new user-friendly ForMAT Bioinformatic Tool.

04. VALIDATION & ETHICS:

Implementing and testing the tools in police and forensic institutes across Europe, ensuring compliance with ISO standards and rigorous ethical/legal scrutiny (GDPR).

11 PARTNERS

4.7M€ TOTAL GRANT

8 COUNTRIES

Spain, United Kingdom, Portugal, Austria, The Netherlands, Poland, Sweden, and Germany

48 MONTHS

September 2025
August 2029