

EXTRACT FORENSIC INFORMATION

for Law Enforcement
Agencies from Encrypted
Smartphones



The Exfiles project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883156.



About

Encrypted mobile phones are often a key factor in criminal cases; the data stored in these devices may contain critical evidence. With most telephones protected by encryption, the rapid processing of critical evidence by various information retrieval techniques is slowed down, if not made impossible. EXFILES will use software exploitation, hardware methods and combined methods to give law enforcement officials the tools and protocols for rapid and consistent data extraction in strict legal contexts. Tools and methods inspired by other areas of information security (e.g. security assessments based on common criteria) will lead to new judicial methods of accessing data for lawful investigations. EXFILES will focus on the ethical and legal aspects of research and exploitation as well as dissemination and training activities for the next generation of forensic experts.





Vision

While technical advances in mobile communication devices have changed the world in a relatively short time, they have also opened the door for opportunistic criminals using technology for illegal activities. A particularly vexing challenge for law enforcement agencies across Europe today, is unlocking mobile telephones confiscated from criminals. Often-times, these devices contain key data

which could be used to solve open cases or prevent further crimes. EXFILES will not only research and develop reliable and consistent ways of unencrypting these devices, but will focus on the ethical and legal aspects as well. EXFILES will disseminate in a responsible way to ensure future forensic experts will be able to leverage and build upon the project results.



Motivation

Keeping European nations at the forefront of technology and security requires the concerted efforts of the federal government, local law enforcement & intelligence agencies as well as cyber security experts. The EXFILES project brings these workgroups together to focus on the growing challenge of lawfully breaching the encryption of mobile communication devices which have been taken into evidence. By uniting stakeholders from all relevant domains, the EXFILES consortium is well poised to research and develop ways of maintaining security in the EU while preserving the privacy of its citizens.



Mission & Objectives

To be able to extract information from encrypted devices, a holistic approach (software and hardware) is required. The aim is, therefore, to find ways to access protected evidence by

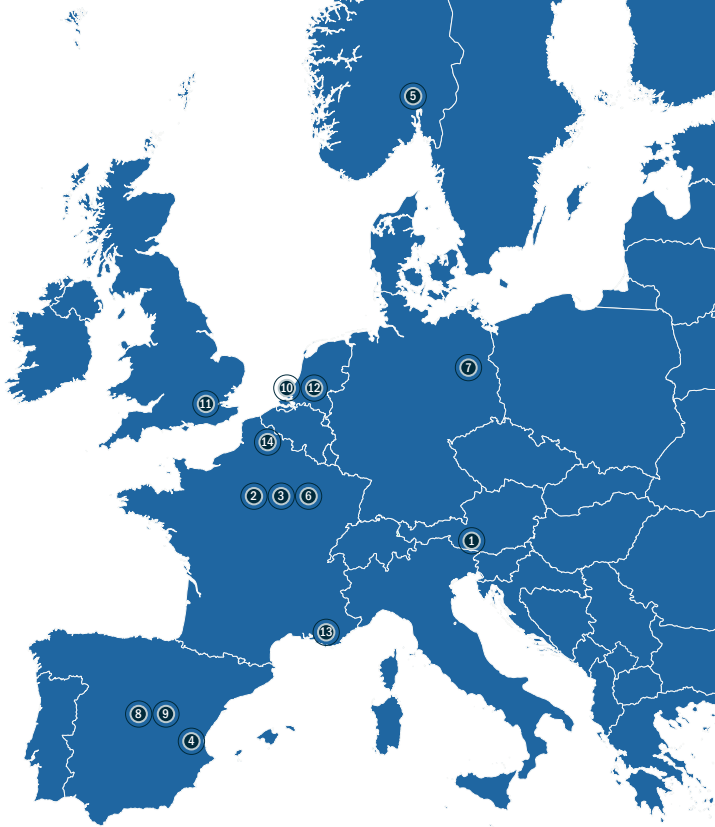
using semiconductor industry knowledge coupled with software exploitation techniques.

EXFILES will focus on the following objectives:

- Categorize smartphones used by criminals
- Advance and update existing tools to improve reverse engineering of specific mobile devices
- Combine software and hardware techniques to produce advanced solutions
- Make evidence extraction from modern encrypted smartphones affordable and practical
- Improve law enforcement agencies' capabilities regarding encryption and increase information sharing
- Involvement of all stakeholders from different domains
- Provide guidelines and recommendations for law makers and law enforcement agencies
- Evaluate the results against real use cases

Partners

The EXFILES consortium consist of 14 highly qualified and diverse Partners from 7 different Countries. The 14 partners are a well-balanced mix of five Law Enforcement Agencies, five high-tech SMEs, two research organisations and two universities.



1

TECHNIKON

Technikon Forschungs- und Planungsgesellschaft mbH
Austria [Villach]

2



CEA Commissariat a L'Energie Atomique et aux Energies Alternatives
France [Paris]

3



Ministere De L'interieur
France [Paris]

4



Cyber Intelligence, S.L.,
Spain [Valencia]

5




National Criminal Investigation service,
Norway [Oslo]

6



Synacktiv,
France [Paris]

7



Bundeskriminalamt,
Germany [Berlin]

8



Centro Nacional de Inteligencia
Spain [Madrid]

9




Agencia Estatal Consejo Superior de Investigaciones Cientificas,
Spain [Madrid]

10



Netherlands Forensic Institute,
Netherlands [The Hague]

11



Royal Holloway and Bedford New College,
United Kingdom [Egham]

12



Riscure BV,
Netherlands [Delft]

13



Texplained,
France [Valbonne]

14



Université de Lille,
France [Lille]

Facts



Budget

€ 7 Million
100% EU-funded



Consortium

14 Partners
7 countries



Duration

36 Months
07/2020 - 06/2023

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