



# Forensic Reverse Engineering of Silicon Chips

Advanced digital investigation  
to tackle cybercrime of  
electronic devices

## Welcome message from the coordinator

ForRES Newsletter – aims at launching a new channel of communication to provide updates on project progress while discussing and highlighting insightful topics relevant to the ForRES project.



For more detailed information about the project, we invite you to visit our project website, which is continuously updated with the latest project news: [forres.eu](https://forres.eu).

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[forres.eu](https://forres.eu)



@ForRES\_HEU



ForRES-HEU

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### Budget

€ 2.3 Million  
90% EU-funded



### Consortium

5 Partners  
5 countries



### Duration

24 Months  
07/2023 - 06/2025

# ForRES Overview

ForRES is dedicated to overcoming the challenge posed by encrypted consumer devices faced by European law enforcement agencies. Its primary aim is to improve techniques for analysing integrated circuits, fostering collaboration between European LEAs and scientific institutions. The project, which runs for 24 months from July 2023, receives substantial funding from the EU. Key

objectives include enhancing the operational capabilities of European forensic science institutes, conducting invasive methods on semiconductor devices in a common workflow and creating a platform for collaborative knowledge sharing. More information about ForRES and its vision, motivation and objectives can be found in the [project leaflet](#).



Bundeskriminalamt (BKA)  
Germany [Wiesbaden]



Politidirektoratet  
Norway [Oslo]

TECHNIKON

Technikon Forschungs- und  
Planungsgesellschaft mbH  
Austria [Villach]



Agencia Estatal Consejo Superior  
de Investigaciones Cientificas  
Spain [Barcelona]



Netherlands Forensic Institute  
Netherlands [The Hague]

## ...what has happened by now?

- Participation HARRIS 2024
- Technical Meeting in Barcelona
- ForRES at Project ULTRA Meeting
- Production of numerous Communication & Dissemination material
- Participation on various conferences

As you can see, it has been very successful and exciting at ForRES recently, and these are just some of the highlights we have had. Therefore, follow the project on [LinkedIn](#) and [X](#) to not miss the latest updates about our work and to stay up to date.

## Highlights from the Hardware Reverse Engineering Workshop (HARRIS) 2024

From March 19th to 20th, 2024, our team participated in the annual Hardware Reverse Engineering Workshop (HARRIS) held in Bochum, Germany. This in-person event brought together a diverse group of experts and enthusiasts from industry, academia, and government, fostering a vibrant exchange within the global hardware reverse engineering community. HARRIS 2024 provided a unique platform for collaboration, with a focus on building connections, exploring innovative research opportunities, and tackling shared challenges. The atmosphere was one of curiosity, collaboration, and forward-thinking.

In addition to participating in the main workshop, the ForRES team took advantage of this gathering to hold our monthly technical progress meeting. With all our technical partners present, we engaged in focused discussions in a dedicated space, further enhancing the value of our participation. The two-day event was packed with networking opportunities, insightful discussions, and fresh perspectives, leaving us energized and inspired to continue advancing our work. The team is also looking forward to taking part in HARRIS 2025.





## Technical Meeting in Barcelona

On September 23, 2024, the ForRES Consortium convened at the Spanish National Research Council (CSIC) in Barcelona for a Technical Meeting. This gathering marked a significant step forward in the field of forensic research, as consortium members shared progress updates from each Work Package and unveiled cutting-edge software tools developed under Work Packages 3 (WP3) and 5 (WP5). The demonstrations highlighted groundbreaking innovations designed to elevate forensic investigation capabilities.

The live software presentations by WP3 and WP5 showcased advanced tools aimed at improving the accuracy and efficiency of forensic data analysis. These tools, developed to process and interpret large datasets with enhanced precision, underscore the consortium's dedication to equipping forensic professionals with state-of-the-art resources. The advancements promise to significantly accelerate forensic workflows while ensuring reliable results, reflecting the ForRES Consortium's commitment to driving progress in forensic science.

Following the successful Technical Meeting, the consortium transitioned into the Annual Chips Hacker Meeting - an event dedicated to fostering collaboration

among forensic researchers, data scientists, and software developers. This intensive gathering provided a platform for cross-disciplinary discussions and hands-on innovation, focusing on the development of technologies that enhance digital forensics and data analytics. By connecting academic research with practical applications, the event continues to strengthen the bridge between theory and real-world forensic challenges.

These back-to-back events not only reinforced the consortium's mission to advance forensic methodologies but also highlighted the collaborative spirit that drives its success. The tools demonstrated at the Technical Meeting and the insights shared during the hacker meeting exemplify the strides being made toward refining forensic practices.

As the ForRES project progresses, the consortium remains dedicated to delivering pioneering research and technologies that empower investigators and legal professionals. By continually advancing the tools and methods used in forensic analysis, the ForRES Consortium is helping to ensure forensic evidence is processed and interpreted with unparalleled accuracy and efficiency.

## ForRES at Project ULTRA

On 9th December, the scenic and historic city of Utrecht became the hub for collaboration and innovation as it hosted the latest Project ULTRA meeting. This gathering brought together some of the brightest minds in forensic science, technology, and resilience research, aimed at fostering dialogue and driving impactful solutions. We are proud to share that the Netherlands Forensic Institute (NFI) represented ForRES at this important event, continuing their vital work in shaping the future of forensic resilience. As a trusted partner, NFI's contributions to ForRES reflect a deep commitment to strengthening the foundations of forensic science and ensuring it remains adaptive to emerging challenges.



# Exploring Silicon Security with Jofre Pallarés and Nicolas Allué (CSIC): Insights into the ForRES Project

During our recent technical meeting in Barcelona, we had the pleasure of conducting an exclusive interview with Jofre Pallarés and Nicolas Allué from CSIC, in which they explain the ground-breaking ForRES project in more detail. ForRES is a pioneering research initiative dedicated to developing advanced tools and methods for analysing and reconstructing silicon chips. In this way, the project aims to increase hardware security by identifying and fixing vulnerabilities in silicon-based devices. In the interview,

Jofre and Nicolas explain their vision for ForRES and emphasise their enthusiasm for the project's innovative technological approaches.

They also talk about the aspects that inspire them the most and give a fascinating insight into the way ForRES is pushing the boundaries of hardware security research.

You can find the interview and our other produced videos on our [ForRES Video Showcase](#).

## Unveiling Insights: New Factsheet Issues

We are pleased to announce the release of the first two issues of the ForRES Factsheet series, providing valuable insights into key technologies relevant to the

ForRES project working on generating more fascinating topics for the next factsheets to be published soon!

### Issue 1: FinFET Technology

This issue offers a comprehensive overview of FinFET technology, including an explanation of what it is, its key features, and its advantages. Additionally, it explores the role of FinFET in the ForRES project, highlighting its potential to contribute to the development of future renewable energy solutions.

### Issue 2: Broad Ion Milling Technology

The second issue delves into Broad Ion Milling (BIM), discussing the fundamental components of the system, its various applications, and its significance within the context of ForRES. This technology plays a crucial role in the precision fabrication processes central to the project's success.

Both factsheets are available on our project website and provide an easy-to-understand introduction to these cutting-edge technologies. These resources are designed to promote a better understanding of the technologies that are criti-

cal to ForRES, as well as those that could drive future innovation. The team is also working on generating more fascinating topics for the next factsheets to be published soon!



### Past Events

#### Hardware Reverse Engineering Workshop (HARRIS 2024)

19<sup>th</sup>-20<sup>th</sup> March 2024  
@Bochum, Germany

#### Annual Forensic Silicon Experts Meeting

23<sup>rd</sup> September 2024  
@Barcelona, Spain



### Upcoming Events

#### Hardware Reverse Engineering Workshop (HARRIS 2025)

17<sup>th</sup>-18<sup>th</sup> March 2025  
@Bochum, Germany

All past and upcoming events can be found on the ForRES official webpage:

[forres.eu/events](https://forres.eu/events)



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