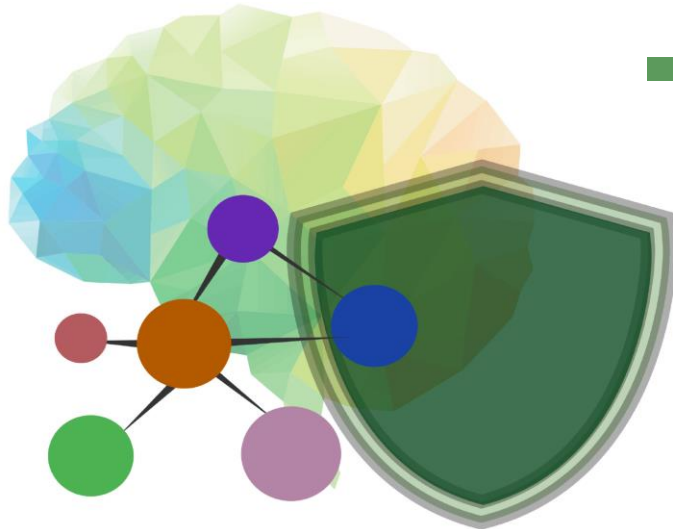


# SECURED NEWSLETTER

ISSUE #3 | SEPTEMBER 2024



## SECURED EU Project

### WELCOME

Welcome to the third newsletter of the SCALING UP SECURE PROCESSING, ANONYMIZATION AND GENERATION OF HEALTH DATA FOR EU CROSS BORDER COLLABORATIVE RESEARCH AND INNOVATION EU project, formally named also as SECURED.

In this newsletter we present the project's Open Call that is accepting proposals until the end of October, upcoming events and workshops, events where the SECURED project was highlighted as well as recent scientific publications developed in the context of the project.

### SECURED OPEN CALL

Pages 2-5 present the announcement of the SECURED Open Call.

### EVENTS & NEWS

Pages 6-8 include upcoming events and provide the current update of the project from March until August 2024.

### BASIC INFO

Page 9 provides initial information regarding the project, including the members of the Consortium, basic facts of the project and social media platforms.

# SECURED OPEN CALL

## ANNOUNCEMENT OF THE SECURED PROJECT OPEN CALL

We are excited to announce the Open Call for the SECURED project. The SECURED project is committed to the advancement of multiparty computation, homomorphic encryption, data anonymization, and synthetic data generation, particularly emphasizing secure and unbiased artificial intelligence and data analytics within the healthcare sector.

### ABOUT THE SECURED PROJECT

The SECURED project aims to overcome current limitations in secure multiparty computation and data anonymization, enhancing their practical capabilities and performance. By addressing these challenges, SECURED will scale up privacy technologies, improve algorithmic efficiency, and support health technology providers, particularly SMEs, in implementing privacy-enhancing technologies. The project will focus on real-world applications, showcased in four health-related use cases: real-time tumor classification, telemonitoring for children, synthetic data generation for education, and access to genomic data.

### OBJECTIVES OF THE SECURED PROJECT

1. **Secure Multiparty Computation (SMPC) and Homomorphic Encryption (HE):** Develop scalable SMPC and HE schemes for AI-based health data analytics tools suitable for realistic health domain scenarios.
2. **Advanced Anonymization:** Provide advanced anonymization methods for health datasets and AI models and assess anonymity using de-anonymization/re-identification techniques.
3. **Synthetic Data Generation:** Create adaptable and versatile tools and services for generating synthetic health/medical data, including synthetic images.



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4. **Federated Learning Infrastructure:** Establish the SECURED Privacy-Preserving and Robust Federated-Learning Infrastructure to support scalable health-data-related services and tools, ensuring unbiased AI training.
5. **Integration and Innovation Hub:** Integrate SECURED components into a framework offering tools, services, training, and knowledge for researchers, EU data hubs, innovators, and end-users.
6. **Legal and Ethical Evaluation:** Assess the legal and ethical aspects of cross-country usage of anonymized and synthetic datasets and AI models.
7. **Validation and Demonstration:** Validate and demonstrate SECURED solutions with cross-border EU health data hubs, offering anonymized data and privacy-preserving data analysis for training and education.
8. **Dissemination and Business Model:** Develop a viable dissemination, exploitation, and business model to support the continuation of a privacy-preserving collaborative health data ecosystem beyond the project's end.

## ABOUT THE OPEN CALL

The Open Call is designed to involve external third parties employing AI solutions in line with SECURED's objectives. The Open Call has three main goals:

1. **Validation:** Validate SECURED solutions with healthcare and AI stakeholders external to the consortium, using continuous feedback to refine and enhance the solutions, thus increasing the variety and volume of processed data.
2. **Collaboration:** Foster ongoing collaboration with external AI/ML stakeholders, data providers, research teams, and SMEs to share and advance knowledge, enabling iterative development of solutions.
3. **Awareness and Participation:** Raise awareness of SECURED's activities through extensive outreach efforts, encouraging widespread participation by a broad community to maintain the project's momentum beyond its completion.



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## KEY ACTIVITIES AND SUPPORT

The Open Call tasks will involve:

- Executing the evaluation of Open Call applications.
- Providing guidelines, recommendations, and technical details for the Open Call.
- Designing the legal and contractual aspects.
- Realizing the Open Call and reporting based on consortium templates/guidelines.
- Holding at least two meetings between the consortium and external parties to set up requirements and present findings.

## FUNDING AND MEETINGS

A dedicated budget of €150,000 has been reserved to fund the selected external parties, compensate external evaluators to ensure a thorough and collaborative evaluation process, and organize one final showcase meeting in an outreach event of the project. Following the Horizon Europe requirements for financial support to third parties, the selected external parties will be funded up to €26,000 each for the project with an additional €1,500 for travel costs. This will assist in the wider evaluation and acceptance of SECURED solutions in the EU data-driven health research and innovation ecosystem. If selected for funding, the project is required to be presented in person at the HIPAC 2025 Workshop.

### Funding

Details of the SECURED Open Call for proposals are as follows:

Total allocated budget: 150,000 euros

Maximum funding per project: 26,000 euros + 1,500 euros for travel costs to the final event



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## TIMELINE

**Call for proposals launch:** 1/8/2024

**Proposal submission deadline:** 31/10/2024, 17:00 CET

**Notification of selected projects:** 30/11/2024

**Project implementation period:** 1/12/2024-1/5/2025

**Completion of works:** 1/5/2025

We welcome proposals from individuals, organizations, and groups who are passionate about making a positive impact in reliable and unbiased AI and data analytics in the healthcare industry. Proposals will be evaluated based on their creativity, feasibility, impact, and alignment with our organization's mission.

Stay tuned for more details on the SECURED Open Call and join us in advancing secure and private healthcare data analytics: you can subscribe to the news mailing list by entering your name and e-mail in this link: <https://list.uva.nl/mailman/listinfo/news-secured-open-call>. Together, we can make significant strides in privacy-preserving technologies for the well-being, diagnosis, treatment and follow-up care in healthcare.

For further information, please contact us via our Open Call email: [secured-open-call@list.uva.nl](mailto:secured-open-call@list.uva.nl).

You can also find the Frequently Asked Questions and the Proposal Submission form at our site:

[https://secured-project.eu/SECURED\\_open\\_call/](https://secured-project.eu/SECURED_open_call/)

**CALL FOR PROPOSALS LAUNCH: 1/8/2024**

**PROPOSAL SUBMISSION DEADLINE: 31/10/2024, 17:00 CET**



**OPEN  
CALL**

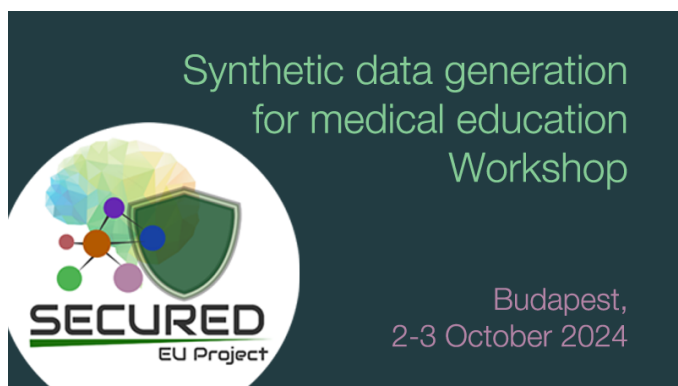


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# EVENTS & NEWS

## SYNTHETIC DATA GENERATION FOR MEDICAL EDUCATION WORKSHOP

**Budapest, 2-3 October 2024**



We are pleased to invite you to the English-language Budapest workshop of the SECURED project. The two-day international event, organized with the cooperation of the staff of the Semmelweis University Health Management Training Center, offers participants the opportunity to gain an insight into the latest developments in artificial intelligence and synthetic image data, especially in the field of medical education.

At our event on October 2-3, 2024, we will present the methods of synthetic image data generation in the field of cardiocography (CTG), mammography, chest X-ray and skull (brain) MRI imaging. In addition, during practical demonstrations, participants can try out the synthetic data generation tools and give direct feedback to the developers.

For more details and the workshop agenda, please follow the link below:

[secured-project.eu/news/budapest-workshop/](https://secured-project.eu/news/budapest-workshop/)

## SHOWCASING INNOVATIVE RESEARCH FOR SYNTHETIC DATA GENERATION FROM THE HEALTHDATA4EU CLUSTER PROJECTS: AISYM4MED, SYNHEMA, SECURED

**EBDVF24, Budapest 2-4 October 2024**

The poster for the EBDVF24 event is titled 'EUROPEAN BIG DATA VALUE FORUM' and '2-4 OCT | BUDAPEST - HUNGARY'. It features three speakers: Sofia Tsekeridou (Netcompany - Intrasoft), Luis Rosado (Fraunhofer AICOS Portugal), and Francesco Regazzoni (University of Amsterdam/Università della Svizzera italiana). The event is scheduled for '2 October' from '10:00 - 11:00'. The poster also lists several partners and sponsors, including BDV, ELTE, NTA, HUN REN, SZTAKI, and EXPO.

Join us on October 2<sup>nd</sup>, 10:00 - 11:00 CET, at the European Big Data Value Forum [EBDVF24](#) for the session: "Showcasing Innovative Research on Synthetic Data Generation from [HealthData4EU](#) Cluster Projects: AISYM4MED, SYNHEMA, and SECURED"!

Join the session or stop by the [HealthData4EU booth](#) to connect with us throughout the Forum!

You can find the session's agenda at the link below:

[secured-project.eu/news/ebdvf24/](https://secured-project.eu/news/ebdvf24/)



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## SECURED Privacy Preservation Tutorial in 6th CPS Summer School at Sardinia, Italy



**SECURED** participated in the 6th Cyber Physical Systems (CPS) Summer School in Sardinia Italy (16-20 September 2024) with a specialized Tutorial on Privacy Preservation.

**SECURED** partners demonstrated how secure computation techniques including homomorphic encryption can be adopted in constrained settings, and applied to CPSs and medical devices.

## Launch of HealthData4EU Cluster



**HealthData4EU**, a dynamic cluster of six sister projects funded under the prestigious **HORIZON-HLTH-2022-IND-13-02 call** was launched in June 2024. This synergistic endeavor brings together leading-edge initiatives, each committed to **leveraging technology to advance patient care and dismantle data silos**.

At the heart of this initiative is a collective mission: **to harness cutting-edge technologies and drive impactful change in healthcare delivery**. With a focus on enhancing accessibility and efficiency in patient care, these projects are poised to revolutionize the healthcare landscape across the European Union.

[Read more](#)

## SECURED project at the 29th IEEE European Test Symposium (ETS)



**SECURED** project was presented at the 29th IEEE European Test Symposium (ETS) by our partner University of Amsterdam, inspiring many attendees.

The IEEE European Test Symposium is a significant event in the field of electronic testing, contributing to the advancement of test technology and providing a forum for the exchange of ideas and collaboration among professionals from around the world.

ETS focuses on the development of secure and safe hardware that **SECURED** partners may use in the acceleration and scaling-up of medical machine learning (ML) applications.



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## SECURED Project Third Plenary Meeting



The 3rd Plenary meeting of **SECURED** project was held in Cork, Ireland, on June 17th-18th 2024.

Partners discussed the progress in the project's objectives, and planned the upcoming demonstration at the Budapest Workshop in October. We had fruitful discussions on architecture, use cases, exploitation and dissemination aspects. We also finalized the process of the **SECURED OPEN CALL**, which was announced on August 1<sup>st</sup>.

[Read more](#)

## Latest Publications

### Journal Articles

- Lennart P.L. Landsmeer, Max C.W. Engelen, Rene Miedema, Christos Strydis, "Tricking AI chips into simulating the human brain: A detailed performance analysis." *Neurocomputing*, Volume 598, 2024, 127953, <https://doi.org/10.1016/j.neucom.2024.127953>
- De Ridder, Dirk, et al. "NeuroDots: From Single-Target to Brain-Network Modulation: Why and What Is Needed?." *Neuromodulation: Technology at the Neural Interface* (2024). <https://www.sciencedirect.com/science/article/pii/S1094715924000515>
- Miedema, Rene, and Christos Strydis. "ExaFlexHH: an exascale-ready, flexible multi-FPGA library for biologically plausible brain simulations." *Frontiers in Neuroinformatics* 18 (2024): 1330875. <https://doi.org/10.3389/fninf.2024.1330875>

### Conference Proceedings

- Siddiqi, Muhammad Ali, David Vrijenhoek, Lennart PL Landsmeer, Job van der Kleij, Anteneh Gebregiorgis, Vincenzo Romano, Rajendra Bishnoi, Said Hamdioui, and Christos Strydis. "A Lightweight Architecture for Real-Time Neuronal-Spike Classification." *21st ACM International Conference on Computing Frontiers Proceedings*, Ischia, Italy, May 7, 2024. <https://doi.org/10.48550/arXiv.2311.04808>
- Francesco Regazzoni et al., "SECURED for Health: Scaling Up Privacy to Enable the Integration of the European Health Data Space," *2024 Design, Automation & Test in Europe Conference & Exhibition (DATE)*, Valencia, Spain, 2024, pp. 1-4, <https://doi.org/10.23919/DATE58400.2024.10546514>
- Aniol Bisquert, Achraf Hmimou, Josep Ll. Berral, Alberto Gutierrez-Torre and Oscar Romero, "HealthMesh: An Architectural Framework for Federated Healthcare Data Management," *26th International Workshop on Design, Optimization, Languages and Analytical Processing of Big Data*, Paestum, Italy, March 25, 2024. <https://ceur-ws.org/Vol-3653/paper5.pdf>



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## CONSORTIUM

The SECURED project is bringing together 18 partners from 9 different European countries highlighting the expertise to successfully accomplish the needs and goals of the project.

[More info on the consortium here.](#)



## PROJECT BASIC INFORMATION

Title: SCALING UP SECURE PROCESSING, ANONYMIZATION AND GENERATION OF HEALTH DATA FOR EU CROSS BORDER COLLABORATIVE RESEARCH AND INNOVATION

**Acronym:** SECURED

**GA No:** 10109571

**Start:** 01 January 2023

**End:** 31 December 2025

**Topic:** HORIZON-HLTH-2022-IND-13-02

Type of action: HORIZON-RIA

**Project Coordinator:** Francesco Regazzoni

Project Coordinator Institute: University of Amsterdam

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