

Turku, Finland, 18 December 2023

PHASE IV AI Horizon Europe Project Privacy compliant health data as a service for AI development

A 3-year EU funded project aims to unlock the full potential of AI and data analytics in health care, focusing on secure and privacy-compliant data utilization

Artificial intelligence (AI) enables data-driven innovations in **health care**. AI systems, which process **vast amounts of data** quickly and in detail, show promise both as a tool for **preventive health care** and **clinical decision-making**. However, the **distributed storage and limited access to health data** form a barrier to innovation, as developing trustworthy AI systems requires large datasets for training and validation. Furthermore, the availability of **anonymous datasets** would increase the adoption of AI-powered tools by supporting health technology assessments and education.

Secure, privacy compliant data utilization is key for unlocking the full potential of AI and data analytics. Companies developing AI solutions would benefit from synthetic microdata for early-stage development, provided on-demand and with privacy guarantees. For researchers and clinicians interested in aggregate data or modelling, **multi-party computation** allows deriving insights from the distributed real-world data. In this way, providing synthetic data and multi-party computation as a service will boost data-driven innovation without compromising the privacy of data subjects.

On **October 24-26, 2023**, **twenty project partners** from **ten European & Associated countries** (*i.e. Finland, Belgium, Spain, Portugal, Luxembourg, Austria, Italy, Turkey, Switzerland and United Kingdom*) met together physically in Helsinki to launch the PHASE-IV-AI project activities and discuss the procedures that the consortium will follow during its implementation period as well as the work to be carried out the upcoming period. The meeting was attended by the Project Officer Ms. **Serena Battaglia** from the European Health and Digital Executive Agency (HaDEA) of European Commission as well as more than 50 experts from leading edge universities and research centres, technology providers as well as prominent end-users from the healthcare sector. The **PHASE IV AI** is a project funded by the **European Union's Horizon Europe** research and innovation program under grant agreement number 101095384 with a lifecycle of **thirty-six months**.

PHASE-IV-AI will advance the current state-of-the-art data synthesis methods towards a more **generalized approach of synthetic data generation**. PHASE-IV-AI will develop metrics for testing and validation.

To this end, PHASE-IV-AI aims to:

- Improve methods and technical pipelines for privacy-preserving data synthesis including different data formats such as Electronic Health Records (EHRs) and medical images.
- Provide easy to use and configurable data services to enable AI developers' access to larger pools of decentralized de-identified data through multi-party computing.
- Provide anonymous data on demand or from a (temporary) repository.
- Establish a Data Market – facilitating data sharing and monetization including incentives-based provision of data to the services.
- Integrate the data market and the data service ecosystem as a X-European health data hub in the European Health Data Space, and

- Validate the results with real-world use-cases focusing on high impact diseases, cancer types in particular.

Specifically, the developments of PHASE-IV-AI project will be validated in 3 real life use cases in relevant high impact diseases comprising **(i) Lung Cancer**, **(ii) Prostate Cancer**, and **(iii) Ischemic Stroke**. All the three diseases are key topics of the European Health ecosystem. Lung Cancer as well as Prostate Cancer are among the top 3 priorities in tackling cancer, neurodegenerative diseases are one of the most relevant issues with the EU's ageing population.

Contact Details

Assoc. Prof. Antti Airola, Principal Investigator. Turun yliopisto | University of Turku, Faculty of Technology | Department of Computing. email: ajairo@utu.fi

Prof. Tapio Pahikkala, Principal Investigator. Turun yliopisto | University of Turku, Faculty of Technology | Department of Computing. email: aatapa@utu.fi

Ms. Riitta Pöntynen, Project Coordinator. Turun yliopisto | University of Turku, Tutkimuspalvelut | Research Services. email: riitta.pontynen@utu.fi

At a Glance

Acronym: PHASE-IV-AI

Title: Privacy compliant health data as a service for AI development

Call identifier: HORIZON-HLTH-2022-IND-13 A competitive health-related industry

Topic: HORIZON-HLTH-2022-IND-13-02 Scaling up multi-party computation, data anonymisation techniques, and synthetic data generation

Grant Agreement number: 101095384

Total Budget: €6,6 M

Project duration: 36 months

Start Date: 1st October 2023

Consortium

1. University of Turku, Finland (UTU) – Coordinator
2. VTT Technical Research Centre, Finland (VTT)
3. Turku University of Applied Sciences, Finland (Turku UAS)
4. KU Leuven, Belgium (KUL)
5. Fundació Eurecat, Spain (EUT)
6. INESC TEC – Institute for Systems and Computer Engineering, Technology and Science, Portugal (INESC TEC)
7. LeanXcale SL, Spain (LXS)
8. Fujitsu Technology Solutions SA N/V, Belgium (FJBE)
9. Fujitsu Technology Solutions SA (Luxembourg), Luxembourg (FJLU)
10. Vall d'Hebron Research Institute, Spain (VHIR)
11. AINIGMA Technologies, Belgium (AIN)

12. University of Vienna, Austria (UNIVIE)
13. Engineering Ingegneria Informatica Spa, Italy (ENG)
14. Sabanci University, Turkey (SU)
15. The wellbeing services county of Southwest Finland, Finland (VARHA)
16. Inpher SARL, Switzerland (INPH)
17. Resilience Guard GmbH, Switzerland (RG)
18. CHUV - Lausanne University Hospital, Switzerland (CHUV)
19. Nottingham Trent University, United Kingdom (NTU)
20. Nottingham University Hospitals NHS Trust, United Kingdom (NUH)



Project website and social media



www.phase4ai-project.eu



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