December 2022

AERAS

NewsLetter #1

AERAS

A CybEr range tRaining platform for medicAl organisations and systems Security

AERAS Concept & Approach

AERAS aims to develop a realistic and rapidly adjustable cyber range platform for systems and organisations in the critical healthcare sector, to effectively prepare stakeholders with different types of responsibility and levels of expertise in defending high-risk, critical cyber-systems and organizations against advanced, known and new cyberattacks, and reduce their security risks. The platform will be a virtual cyberwarfare solution enabling the simulation of the operation and effects of security controls and offering hands-on training on their development, assessment, use and management.

PROJECT OBJECTIVES

- Develop and deliver a highly adaptive and person-centric service to support older adults in work life by creating a positive work environment for employee wellbeing.
- Develop smart environment technologies to improve occupational safety and health.
- Enhance the perception and cognition of smart devices towards human-centered and intuitive human-computer interaction.
- Develop and validate a solution in real-world environments, capitalizing on ICT innovations that will increase the competitiveness of EU industry by accommodating the ageing workforce.
- Guarantee cost-effectiveness and create socio-economic benefits.

AERAS has received funding from the European Union's Horizon 2020 Research and Innovation program under Grant Agreement No 872735.

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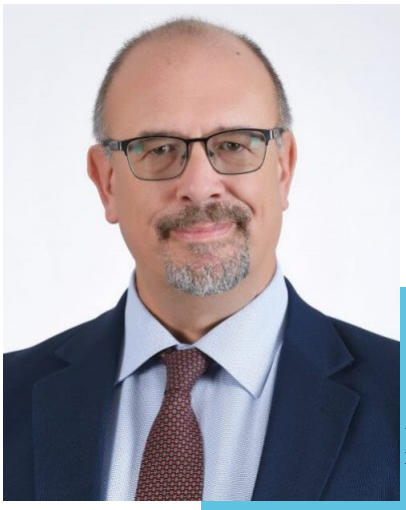

UNIVERSITÀ DEGLI STUDI DI MILANO

Message from the coordinator

Prof. Ernesto Damiani, University of Milan

We are happy to introduce you to the first issue of the AERAS project newsletter, which will pave the way for a privileged channel for the dissemination and communication of the upcoming project's events and results. AERAS will be a unique opportunity for researchers coming from Consortium partners to exchange and contribute to the implementation of an innovative Cyber Range platform, specifically designed for the Healthcare sector, dedicated to Cybersecurity training. We will be delighted to inform you of any achievement of the project throughout all its duration, inviting you to discuss and share with us your view and experiences on such a challenging scenario

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Consortium

The consortium consists of 7 partners from 4 European countries:

Universita Degli Studi Di Milano (UMIL)
Italy
The Coordinator

Hospital Environment Pilot (UPAT)
Greece

Cyprus University of Technology (CUT)
Cyprus

Panepistimiako Geniko Nosokomeio Irakleiou (PAGNI)
Greece

Aegis IT Research GMBH (AEGIS)
Germany

SPHYNX Analytics Limited (SPHYNX)
Cyprus

Erevnitiko Panepistimiako Instituto Tilepikoinoniakon Systimaton (TSI)
Greece

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AERAS Pilots

The AERAS solution will be validated through two different pilots in the healthcare sector:

1. Hospital Environment Pilot (UPAT)

The University of Patras School of Medicine has a daily presence in the University Hospital of Patras, where each Department has a clinical unit. To this end, all the faculty of the school of medicine are members of the University Hospital staff and do their daily clinical routine in the corresponding clinical units.
There are numerous data that are archived every day since there are about 1,000 patients every day examined in the hospital. Those data are of high importance and need to be protected against any illegal activity. Systems acquiring data, as well as archiving and transferring them need be operable on a 24/7 basis.

"Smart Hospital, including various healthcare devices"

2. Healthcare Authority Pilot (PAGNI)

PAGNI is the largest hospital facility in Crete and one of the largest public hospitals in the country, with 800 beds and more than 2200 employees. Currently, PAGNI is using an integrated information system that links the hospital medical care, the pharmacy, the patient flows, and records.
PAGNI processes health data containing highly personal information, so it is a prime target for cyber-attacks whose goal is to obtain such information unlawfully. At the same time, a disruption of its systems and their unavailability due to viruses/ransomware will affect many others – both those who attempt to provide up-to-date information on the various topics it is monitoring, and the partners connected to it.

"interconnected with various public and private hospitals and individual healthcare professionals"

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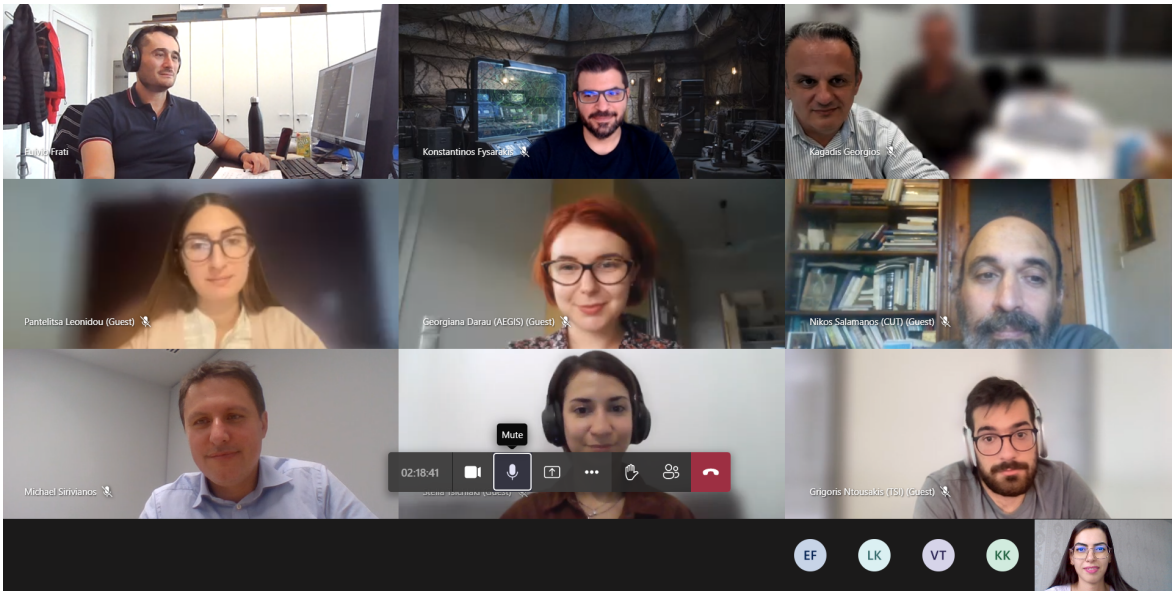
General Meeting



The AERAS consortium had its General Meeting on the 14th of October 2022. Each partner presented the progress of each work package they lead. Active and previous secondees presented their secondment experience and its results. After the presentations, the partners talked about the project's progress, and they discussed their next steps and actions.

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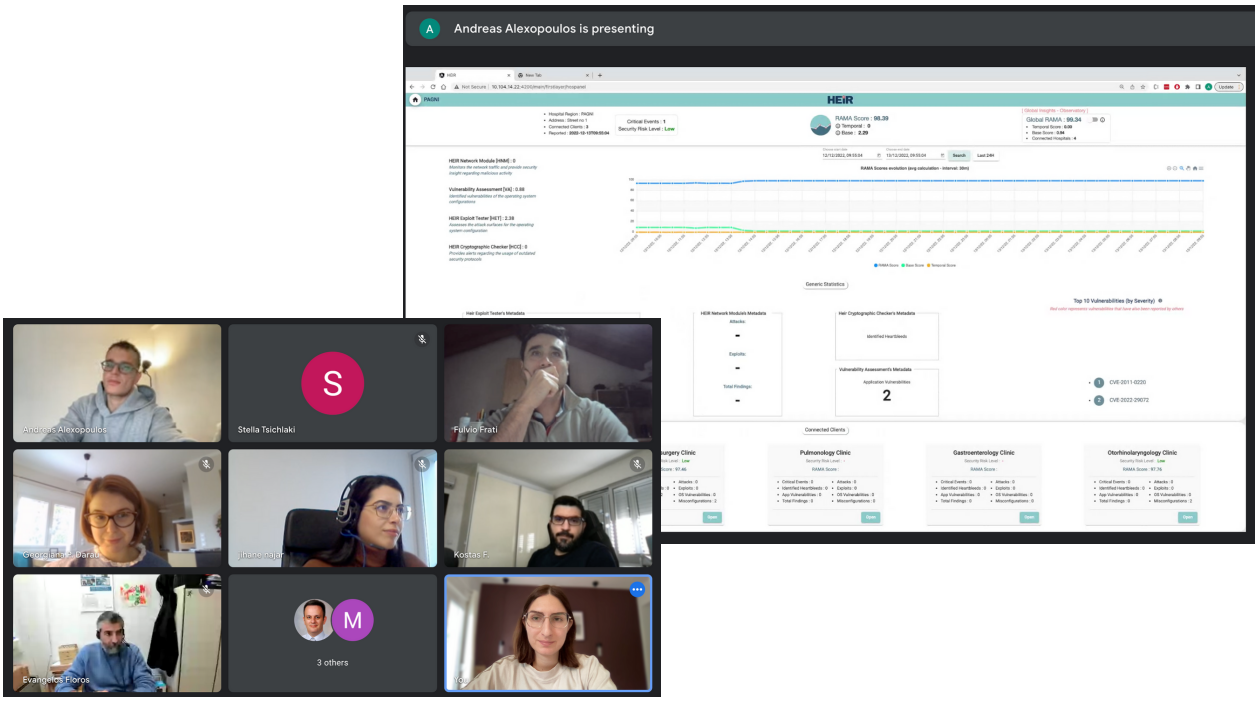
Implementation



The development of the AERAS training platform will be based on the Advanced Visualization Toolkit of AEGIS Information Technologies. The AERAS Consortium is currently working on WP2 and WP4 to establish the Platform Requirements and design and develop Key Components. On the 13th of December 2022, Andreas Alexopoulos from AEGIS Information Technologies demonstrated the AEGIS Visualization tools to the AERAS partners. The partners discussed how the tools can be integrated into the AERAS platform for cyber range training purposes!

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Research Updates

Nikos Salamanos, from CUT, participated in the Innovative research poster's pitching session at Concordia Open Door (COD2022) event in Munich, Germany. He presented a paper derived from a research collaboration project with Pantelitsa Leonidou and Michael Sirivianos from CUT and Nicolas Kourtellis from Telefonica Research, Spain. They study the application of Federated Learning in real-world use cases to provide privacy-preserving solutions in machine learning tasks. You can read the full paper at the following link: https://arxiv.org/abs/2209.11843

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