

Cybersecurity Toolbox for Connected Medical Devices



Atos starts collaboration to boost cybersecurity for connected medical devices

- As the healthcare becomes more connected, the large volumes of data stored and maintained in healthcare organisations get increasingly exposed to cybersecurity risks for organisations and patients alike.

Madrid, December 2022. Atos Research and Innovation (ARI) announces the start of the CYLCOMED project, a new Horizon Europe Research and Innovation action, which addresses the pressing needs for a comprehensive cybersecurity solution in the healthcare sector. The strong consortium, which groups researchers, healthcare and technology providers, will implement and release a toolbox that allows users to avoid and prevent cyber-risks in the CMDs ecosystem.

Around 500k different types of medical devices are currently manufactured by medical technology companies (e.g., wearables, implantable and stationary medical devices, mobile connected medical devices). CYLCOMED will deliver to SMEs and companies manufacturing, integrating and using CMDs and platforms managing such devices, a comprehensive set of tools that will allow them to implement measures for: secure communications and behaviour, user authentication/access control and data protection, device integrity, software maintenance, integrated visualisation of security information.

The CYLCOMED toolbox includes the development and use of artificial intelligence (AI)-based systems or techniques. At the end of the project, the toolbox will ease integration by device manufacturers, healthcare institutions and platform integrators, allowing stakeholders to avoid and prevent cyber-risks in the CMDs ecosystem.

MD. Dietmar Frey from Charité - Universitaetsmedizin Berlin (CYLCOMED project coordinator): "CYLCOMED puts forward the vision of trustworthy, dependable and cost-effective health services and medical care delivered thanks to CMDs. The ultimate goal is twofold: on the one hand, to improve the effectiveness and quality of personalised healthcare services (assisting professionals in patient-centric activities through data-driven semi-automated monitoring), and on the other hand, to reduce risks and non-compliance costs".

Through ARI, Atos' participation brings to CYLCOMED the joint expertise of its Cybersecurity and Blockchain, Identity and Privacy Units. It is a vital contributor to CYLCOMED as leader of the key technical work package that will carry out the design and implementation of the Cybersecurity Toolbox as a key project outcome that will allow stakeholders of the Connected Medical Devices ecosystem to avoid and prevent different cyber-risks especially as they become integrated with novel technological environments (like 5G, AI, cloud computing or blockchain).

Two distinct real-life pilots will be performed to validate the benefits and the wide applicability of the developed tools and guidelines. They will involve specialised

healthcare providers from three different EU Member States (Spain, Italy and Germany) and comprise the following scenarios:

- in-hospital CMD equipment for COVID-19 patients monitoring; and
- telemedicine devices managed through Software as a Medical Device (SaMD) and deployed in paediatric patients' homes (to improve their quality of life) or employed during ambulance transfers.

Training will also be a key part of the CYCLOMED's strategy, to ensure a successful adoption by stakeholders as well as an effective means to leverage existing investments in devices, platforms and other eHealth infrastructures.

About CYCLOMED

The CYCLOMED project is powered by a strong consortium made up of 10 partners: [Atos Spain](#), [Atos IT Solutions and Services Iberia](#), [MediaClinics Italia](#), [Martel GmbH](#), [XLAB](#), [Charité -Universitaetsmedizin Berlin](#), [Fundación para la Investigación Biomédica Hospital Infantil Universitario Niño Jesús](#), [Ospedale Pediatrico Bambino Gesù](#), [RGB Medical Devices](#), [Katholieke Universiteit Leuven](#) and [Inov Instituto de Engenharia de Sistemas e Computadores](#), from seven European countries. The consortium combines business know-how, social sciences and deep technical insights in the cybersecurity and data protection solutions.

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About Atos

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Atos Research and Innovation (ARI) is the R&D hub for new technologies inside Atos' BDS division, with the largest expertise in research and development projects.