



Press release

EMERALD transforms the landscape of cloud-based services developing a new framework to enhance security and efficiency for both Large and Small Medium Enterprises.

Pisa, Italy, February 2024.

In recent years, the business relying on the development of cloud-based services and applications has considerably increased for both Large as well as Small and Medium Enterprises (SMEs). As a result, there was a need to make the certification process for cloud-based services more agile, for example through the use of continuous monitoring and assessment, as evidenced by the references to this in the EU Cybersecurity Act (EU CSA). While from a technological perspective different proof of concepts for continuous monitoring and assessment have been shown, there are still some challenges related to the interoperability of the different technologies used.

Companies are forced to comply with a wide range of security, privacy and regulatory requirements across heterogeneous environments, making it complex and costly for highly regulated industries to integrate new services and continuously assess and enforce such requirements. New strategies to achieve self-adaptiveness of services and data-portability are needed to help developers design and implement secure services.

A new research project, called **EMERALD (Evidence Management for Continuous Certification as a Service in the Cloud)**, has been funded by the European Union's Horizon Europe programme under Grant Agreement 101120688. EMERALD is **dedicated to transforming the landscape of cloud-based services, focusing on developing a new framework to improve security and efficiency for both Large and Small Medium Enterprises**. With a commitment to developing an agile certification process, EMERALD will support Cloud Service Providers, Customers and Auditors in the certification process, promoting the adoption of cloud services and ensuring that they are accessible, secure, and beneficial for all stakeholders.

The main objective of EMERALD is **to pave the road towards Certification-as-a-Service (CaaS) for continuous certification of harmonized cybersecurity schemes, like the EUCS candidate scheme (European Cybersecurity Certification Scheme for Cloud Services)**. To this aim, EMERALD will leverage the findings of the H2020 MEDINA project (GA 952633), starting from Technology Readiness Level TRL 5 (prototype) and advancing in the EMERALD core to TRL 7 (product).

For **cloud service providers** as well as **cloud customers**, EMERALD will offer a framework to set-up, manage and monitor their certifications and enable lean re-certification. For **auditors**, EMERALD will offer an audit assistance framework.

To achieve the overall objective, **EMERALD will design and implement a user interaction concept**, offering a uniform way to address audits and a solid degree of complexity reduction by customizing the audit process. Furthermore, EMERALD will provide **cybersecurity and standardization agencies** with novel strategies and methods for building cybersecurity requirements and metrics that can react to changes and, if necessary, are interoperable enough to be translated to other schemes.

Within this context EMERALD will:

- Provide next-generation evidence gathering tools based on a knowledge graph approach.
- Reduce complexity in multi-scheme Cloud certifications by assisted metric mapping.
- Provide a seamless user experience of continuous auditing for auditors and auditees.
- Provide interoperability to other frameworks, security assessment tools and repositories.
- Validate the outcomes in industrial pilots.
- Promote the project, disseminate results and coordinate with international agencies.

The EMERALD consortium, led by Tecnia (Spain), is formed by a balanced set of academic and industrial partners specialized in areas like cybersecurity certification, cloud computing, AI, UX/UI design, and auditing processes. This diverse expertise ensures a robust approach towards achieving the EMERALD objectives, with a focus on practical applicability and early adoption of results. The consortium includes 11 organizations: Tecnia, Fraunhofer, Fabasoft, Consiglio Nazionale delle Ricerche, Software Competence Center Hagenberg, Know Center, CaixaBank, IONOS, CloudFerro, OpenNebula and Nixu.

Project Website

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