

## Introducing the CONNECTING Alliance:

### A Small-Scale Infrastructure Project for Supporting Research and Innovation for Heritage

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This paper introduces the “Research and Innovation Knowledge Centre for Engineering in Heritage”, in short CONNECTING [1], a recently funded project by the European Regional Development Fund and the Republic of Cyprus. CONNECTING envisions to establish a knowledge center for cultural heritage sites and monuments, through the acquisition of advanced sensors and platforms, such as vertical takeoff and landing drones, RGB, multi- and hyperspectral cameras, LiDAR systems, terrestrial laser scanner, soil moisture, ultrasonic, inclinometers, wireless strain sensors, and multibeam echosounder.

Project CONNECTING aspires to serve as a research hub for the consortium partners and supporters. The consortium consists of four partners, namely the Cyprus University of Technology, Infralabs Ltd, University of Cyprus and Department of Antiquities of Cyprus who are working together to deliver the two innovative demonstration activities outlined in the project. The project will provide best practices learned from experience in the form of a report from the leading academic institution with the support of the national stakeholder responsible for heritage management in Cyprus (Department of Antiquities).

Advanced remote sensing techniques and portable sensors will be employed to capture the geometry and form of complex monuments and sites using photogrammetric techniques and Structure from Motion (SfM) analysis. Low-altitude sensors mounted on drones will capture a site with high accuracy. At the same time, in-situ laser scanners and close-range photogrammetry will document architectural details, materials, and the state of preservation, depending on the case. The resulting comprehensive 3D point cloud, upon further processing will yield structured and georeferenced 3D models. Finally, a multibeam echosounder will be used to support underwater archaeological surveys.

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## **References**

[1] Connecting Project, <https://connecting-infra.eu> (accessed 12<sup>th</sup> of Dec. 2023)