"Enabling Innovative Space-driven Services for Energy Efficient Buildings and Climate Resilient Cities" with acronym BUILDSPACE

Programme	HORIZON-EUSPA-2021-SPACE
Project	BUILDSPACE aims to couple terrestrial data from buildings (collected by IoT platforms, BIM solutions and other) with aerial imaging from drones equipped with thermal cameras and location annotated data from satellite services (i.e., EGNSS and Copernicus) to deliver innovative services for the building and urban stakeholders and support informed decision making towards energy-efficient buildings and climate resilient cities. The platform will allow integration of these heterogeneous data and will offer services at building scale, enabling the generation of high fidelity multi-modal digital twins and at city scale providing decision support services for energy demand prediction, urban heat and urban flood analysis. The services will enable the identification of environmental hotspots that increase pressure to local city ecosystems and raise probability for natural disasters (such as flooding) and will issue alerts and recommendations for action to local governments and regions (such as the support of policies for building renovation in specific vulnerable areas). BUILDSPACE services will be validated and assessed in four European cities with different climate profiles. The digital twin services at building level will be tested during the construction of a new building in Poland, and the city services validating the link to digital twin of buildings will be tested in 3 cities (Piraeus, Riga, Ljubljana) across EU. BUILDSPACE will create a set of replication guidelines and blueprints for the adoption of the proposed applications in building resilient cities at large.
Role of Municipality of Piraeus	The Municipality of Piraeus at BUILDSPACE, will lead the pilot in Greece: - On a building scale, 1 or 2 municipal buildings will be selected for the creation and enrichment of a digital twin, focusing on the inspection of the existing building to identify areas for intervention. Expected outcome: This pilot will test the digital twin at building scale and evaluate the service in terms of applicability, cost and effectiveness in monitoring a building and identifying hotspots. - At the city scale, the urban heat and resilience analysis service (including a dedicated subcomponent for social vulnerability to heat) will be tested for Piraeus. Expected results: At this scale, the pilot is expected to provide a tool for making informed decisions about urban heat, analyzing urban heat in current and future scenarios and providing information on social vulnerability to heat. The Municipality of Piraeus will also participate in the dissemination, communication and information activities of the project and in the work package for the exploitation and development of business cases.
Partnership	1. Space Hellas Anonymi Etaireia Systimata Kai Ypiresies Tilepikoinonionpliroforikis Asfaleias, Greece 2. Singular Logic (SLG), Greece 3. Ethnicon Metsovion Polytechnion (NTUA), Greece 4. Fundacion CARTIF (CARTIF), Spain 5. Polytechnic University of Madrid (UPM), Spain

	6. European Centre for Medium-Range Weather Forecasts (ECMWF), UK 7. Nazka Mapps (NAZKA), BE 8. MOBICS (MOBICS), Greece 9. ALDA (ALDA, Association Europeenne Pour La Democratie Locale), FR 10. MOSTOSTAL WARSZAWA SA, POL 11. DIMOS PEIRAIA, Greece 12. IMZI-INSTITUT ZA MODRO-ZELENO INFRASTRUKTURO, SI 13. Riga Planning Region (RPR), LV 14. The Chancellor Masters And Scholars Of The University Of Cambridge, UK
Duration	36 months (The project is due to start in February 2023)
Budget	2.999.985,00 €
Piraeus's Budget	121.000,00 €