

# DT4HEALTH – Digital twin platform for intelligent and sustainable management of hospital facilities



On December 7, 2023, the Instituto Superior Técnico (IST) from Lisbon University and the Norwegian University of Science and Technology (NTNU) collaboratively organized the first workshop for the DT4HEALTH project. The event brought together experts in hospital management and digital twin technology.

Conducted at the IST facilities in Lisbon, the workshop, held in the morning, highlighted the participation of researchers from IST, including Professors António Aguiar Costa, Inês Flores-Colen, Daniela Arnaut, and Ph.D. students Rodrigo Pedral Sampaio and Maria Teresa Ferreira. Noteworthy contributions from NTNU were made by Professors Nora Johanne Klungseth and Marco Sememi, who traveled to Lisbon for the occasion. Additionally, a master's student from NTNU, Sondre Nordvik, engaged in the discussions remotely. External experts enhanced the event, featuring Eng. Miguel Agostinho, the Facility Management Association Executive Director in Portugal, Arch. Alexandra Santos, Founder and President of CPlace, Eng. Paulo Marques, responsible for facility coordination at the Santarém Hospital, and Eng. Francielle Santos from the Federal University of Goias, who is undertaking post-doctoral research at IST.

The workshop provided a collaborative environment for exchanging ideas and establishing fundamental foundations for implementing a digital twin applied to the management of hospital facilities. During the presentations, researchers and experts addressed information modeling for hospital infrastructures, relationships between various spaces and stakeholders, identification of multiple processes, integration of sensors and Internet of Things (IoT) technologies, criteria for defining visualizations, and how information should be accessed.

In the afternoon agenda, Professor Nora explored further insights into standardization and emerging technologies applied to facility management. This seminar, presented through a hybrid format (both online and in-person), addressed the status of standards in facility management and demonstrated, through practical cases, how new technologies can enhance efficiency and sustainability in processes.

The collaboration between IST and NTNU in the DT4HEALTH project represents an excellent opportunity for international cooperation to drive research and development in critical areas of society, such as the facility management of hospital buildings.