Title: Long lasting built environment

Speaker: Domenico Asprone

Company/Institution: University of Naples Federico II
Long lasting built environment

Setting the scene: current criticalities in Facility Management

Large amounts of scattered information stored in poorly structured decentralized archives

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The projects have received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement Nº760639, 760824 and 761072
The Digital Twin of a building is a digital model (BIM model) connected with the real asset by means of sensors.

Centralized data

Simulation of damage, degradation, maintenance and management scenarios

Efficiency

Long lasting built environment

Setting the scene: BIM enables the digital twin of a building

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Building Information Model (BIM) supports surveys by means of drones and laser scanners. Scanned images can be transformed into an actual BIM model. A Finite Element Model (FEM) can be derived by the BIM model and used to perform structural analysis.
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BIM models are enriched with information produced following collaborative workflows that enable **coherent** and **consistent data** to be produced.

**Building Information modeling**

**Common Data Environment (CDE)**

**Collaborative platforms**

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Building Information management

BIM models support structural engineering in the operation phase (Facility Management) as they enable mapping of degradation and tracking location of site investigations.
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The University of Naples Federico II is at the forefront of training in BIM methodologies and technologies. The BIM approach is explained in specific courses included in both Master’s Degree courses and a university master course. Training is provided to public administrations too.

There is great effort in the improvement of brainware and humanware components.