

DIGITAL
TWIN

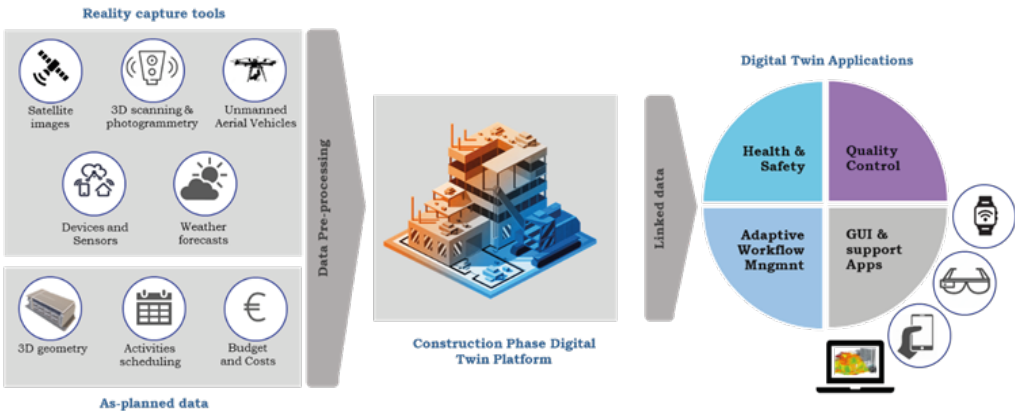


COGITO

Construction Phase
digital Twin Model

The COGITO project aims to establish a Digital Construction 4.0 toolbox that integrates:

- reality capture technology to collect data capturing the actual state of operations from construction sites;
- Building Information Models (BIMs) initially containing design and planning information and augmented subsequently into a continuously updated Digital Twin with as-built data;
- innovative integrated data management and software solutions to optimise site operations.



The COGITO Digital Construction 4.0 Toolbox will effectively deliver a “DigitalTwin” of construction operations and employ it for improving performance in terms of safety, quality, schedule and cost.

It will bring significant benefits for the construction Project/H&S/QA Managers and construction companies, construction site labours, technological platforms, professional associations and initiatives, scientific community.



Construction Digital Twin Platform



Digital tools for Quality Control & Workflow Management



Digital tools for Health & Safety Management



Design and promotion of standardization data exchange formats



Demonstration on actual construction sites

Digital Construction 4.0 toolbox



Construction Phase Digital Twin Platform



Reality capture tools & Multi-source Data Stream
Pre-Processing



On-site Workers' Health & Safety Assurance Tools



Geometric and Visual Quality Control Tools



Adaptive Workflow Modelling and Management Tools

COGITO tools are tested in two pilot sites!

Pilot site - Denmark

SRG will facilitate access to the Copenhagen Metro Network Extension as the first real validation site for full experimentation with the COGITO tools



Pilot site - Spain



The second construction project for the validation phase is the Underground Station construction. The aim is to adapt the current railway corridor for the implementation of High-Speed services, making it compatible with the other types of traffic and supporting intermodality.

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