

**Programme:** EU-HORIZON 2020 Industrial leadership - 2014-2020

**Call:**

LC-EEB-08-2020

Call name:INDUSTRIAL SUSTAINABILITY | Call ID:H2020-NMBP-ST-IND-2018-2020

**Topic/s:**

Construction industry in the European Union needs to follow the latest technological developments going beyond Building Information Modelling (BIM). Digital Building Twins should facilitate monitoring of activities and comparison of relevant data against the initially agreed planning. Recent advancements in computing power and deep learning algorithms will allow fully automated pipelines from data generation to processing, and from data capturing to advanced knowledge and decisions. Its adoption faces hurdles due to lack of open semantic interoperability between standards thus making it imperative to create global standards infrastructures.

**Scope:**

The aim is to develop a digital building twin – a real-time digital representation of a building or infrastructure. This differs from BIM, which traditionally does not include real-time data collected from the construction site or building in operation. The digital-twin concept uses tools and technologies to collect and process real data and information from devices, components, parts, machines on an ongoing construction site and structures in use. With digital twins, as-designed and as-build models will be synchronised thus allowing companies to continuously monitor real progress against the initial BIM-based planning. Methods to ensure interoperability between a BIM and a digital-twin are encouraged.

Proposals should therefore address the following issues based on digital-twins' applications on construction sites:

Automated progress monitoring allowing to verify that the completed work is consistent with plans and specifications;

Tracking of daily changes in an as-build model, allowing early detection of discrepancies;

Avoiding over-allocation of resources by dynamic prediction of requirements, thus reducing the need to move resources over long distances and improving time management;

Assurance of the safety of workers through a system of early detection and notification by applying artificial intelligence;

Quality assessment by image processing technologies should allow verification of structure conditions and detection of cracks or material displacement, triggering additional inspections;

Optimisation of equipment usage by advanced imaging and automatic tracking.

Proposals should consider how to acquire data (image) and exploit, whenever cost-effective, the use of satellite-based approaches.

Proposals submitted under this topic should include a business case and exploitation strategy, as outlined in the Introduction to the LEIT part of this Work Programme.

Activities should start at TRL 4 and achieve TRL 6 at the end of the project.

**AG1 priority fields:** ICT

**Call Budget:** 6000000,00€

Co-funding type:

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**Opening date:** 03 Jul 2019

**Deadline date:** 05 Feb 2020

**Call presentation and documents:** <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunit...>