

## Publishable executive summary

This deliverable presents prototype demonstrators of Augmented Reality (AR) systems to support the construction, assembly, refurbishment and maintenance process of buildings in an interactive way.

Check out the developed AR solutions through the YouTube videos (see links on page 3), available for the INSITER consortium members and European Commission representatives only.

In addition, an executable software demonstration of the INSITER BIM-based Self-Instruction AR App is made available on the INSITER internal project website – SharePoint (see links on page 3).

The INSITER toolset is utilized to provide required information to any actors or stakeholders. AR, as part of the INSITER toolset, is visualizing 3D BIM models, BIM-based processes, as well as instrumentation device data among other referenced planning data for self-inspection and self-instruction purposes.

Within the documentation of *D2.2 Robust and practical solutions of Augmented Reality for construction sites* the developed and delivered results concerning AR solutions for INSITER are described.

In the context of the INSITER methodology, the developed AR applications are integrating and accessing developed BIM-models, BIM-based process simulations, such as instrumentation and planning data.

This document presents the results of task 2.1 with special emphasis on the AR developments. In particular:

- INSITER BIM AR Vision App, developed and designed to visualize extensive or complex BIM models with referenced planning or instrumentation data in AR;
- INSITER HoloLens BIM-based Mixed Reality App, with the focus on BIM model evaluation for self-inspection of detailed 3D construction environments;
- INSITER BIM-based Self-Instruction AR App, designed to provide detailed BIM-based process simulations on-site.

The INSITER solutions of Augmented Reality for construction sites, which have been developed within task 2.1, are implemented within defined INSITER demonstration sites. They allow the detailed evaluation and visualization of 3D BIM models and related planning data which subsequently helps optimize and reduce errors within the construction process. Moreover, the validation of technical building services and components such as mechanical, electrical, and plumbing (MEP) or heating, ventilation, and air conditioning (HVAC) systems is supported. Thus, the developed AR solutions provide new approaches for self-inspection and self-instruction as they merge virtual models (or planning data) with real world objects. In other words, it connects the BIM data with the on-site real work environment.

For more information on the demonstration cases, refer to *D5.4 Field validation report and recommendations* and *D5.6 Field demonstration report*.

