

Publishable executive summary

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

Check out the developed video simulations, available for the INSITER consortium members and European Commission representatives in the INSITER project management website [SharePoint](#).

The INSITER toolset is utilized, to provide required information to any actors or stakeholders. AR, as part of the INSITER toolset, will visualize 3D BIM models, BIM-based process simulations, as well as instrumentation device data among other referenced planning data for self-inspection and self-instruction purposes. Thus, AR is expanding the perception of reality with IFC BIM models and BIM-based simulations, which are superimposed into the field of vision of the user on the construction site.

Within this deliverable 2.1 “BIM-based simulation and visualization of processes” the developed and delivered results concerning BIM-based process simulations and visualization concepts are presented and the AR application demonstrations are described.

In the context of INSITER, BIM-based process simulations are developed to be utilized and visualized cornering self-instruction purposes to provide interactive information and guidance. In combination with INSITER tools and AR these BIM-based simulations enhance the capabilities of actors on-site in an efficient and effective way.

This document presents the results of task 2.1 and deliverable 2.1 with special emphasis on:

- BIM-based simulations of processes in the field of construction and assembly as well as maintenance or refurbishment;
- AR demonstration applications implementing the developed BIM-based process simulations, among other instrumentation and planning data;
- Roles of actors or stakeholders on-site and their objectives using the described tools;
- Visualization and integration concepts concerning AR visualization of IFC BIM models and BIM-based planning information.

The results of this deliverable will pave the way for a successful development of an operative INSITER AR solution, which will be further developed within task 2.1 and implemented within defined demonstration sites. The developments related to AR will go on according to the project plan (as described in chapter 5) and will be finally presented within deliverable 2.2: “Robust and practical solutions of Augmented Reality for construction sites”.

