

## Publishable executive summary

This deliverable, D3.2, is the final deliverable to be submitted in work package 3, and therefore should be seen as the culmination of the efforts by the involved partners in this work package. Work package 3 involves the development of user-friendly software applications for self-inspection regarding the aspects of process, planning, cost optimization, quality and energy assessments.

Originally it was proposed to describe the aspects as outlined above in two separate deliverables, D3.2 Software prototype for process, planning and cost optimisation and D3.4 Software prototype for quality and energy assessments. However, it has been decided that in the light of the aim of WP3, creating a holistic toolset for self-inspection, these two deliverables are best merged in order to be able to coherently present that holistic overview.

This INSITER toolset is best characterized as a heterogeneous but interconnected set of software tools. In such a toolset concept it is especially important to structure and ensure the interoperability between these tools. To this end, the INSITER 8-step model was developed, which identifies eight distinct steps within the INSITER-augmented construction process and the INSITER toolset.

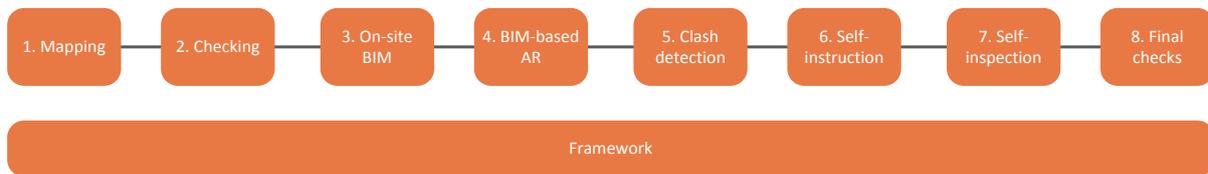
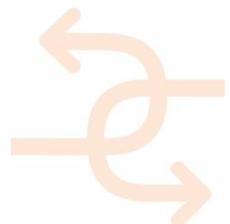


Figure 1: The INSITER 8-step model

As depicted in figure 1, the following eight steps are identified:

- Mapping; creating geometric and semantic inventories of an existing building in a refurbishment scenario
- Checking; ensuring building components comply to specification and are undamaged delivered on-site
- On-site BIM; modelling and preparing BIM-models for on-site usage
- BIM-based AR; Augmented Reality as on-site guidance for the construction worker based on BIM
- Clash detection; determining the implications that on-site deviations have on the construction process
- Self-instruction; providing user-friendly self-instruction material to the construction worker
- Self-inspection; inspecting one's own and each other's work on-site and identifying deviations
- Final checks; keeping track real-time of the construction process through condensed information

The foundation for this 8-step model is the INSITER framework; a combination of three databases allowing the different software tools with the INSITER toolset to communicate and interact with each other (see also Deliverable 4.3).



To provide access to and information about the INSITER toolset a central hub has been set up, the INSITER collaboration platform, which provides the end-user with a single access point to INSITER software tools based on the same INSITER 8-step model. Due to the heterogeneous nature of this toolset the complete integration of all functionalities within one single tool was not feasible. The solution of cloud-based central access to such a toolset is in fact a strategy that is commonly employed throughout the contemporary software landscape.

As every project is different and each partner in a project has its own experience and knowledge using specific software solutions it is expected that no single project will use every software application in the INSITER toolset. However, the heterogeneous nature of the INSITER toolset also allows for such usage of the provided software, where software tools can be substituted or even left out. Furthermore, the INSITER framework allows INSITER partners as well as external software providers to add software applications by using the interfaces the data sources in the framework provide.

The combination of an interconnected set of software tools, an integrated data-backbone in the form of the INSITER framework, and the presentation of the INSITER toolset to the end-user through the INSITER collaboration platform makes the results presented in this deliverable, while in the context of INSITER, valuable solutions for any project.

