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R.2.3

Exchange between construction/deconstruction workers and education professionals on the BIM use at EOL practices: Strengths and challenges

Greek Report

PEDMEDE

11.10.2024

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Introduction

Building Information Modelling (BIM) is an innovative and transformative technology in the construction industry, offering a 3D digital representation of the physical and functional characteristics of buildings and infrastructure. BIM facilitates improved collaboration, efficiency, and sustainability throughout the lifecycle of a project, from design and construction to operation and maintenance.

Europe has been at the forefront of BIM adoption, with varying degrees of implementation and maturity across countries. The Directive 2014/24/EU on public procurement, adopted by the European Union in 2014, plays a pivotal role in promoting the use of BIM across Europe. This directive encourages member states to consider digital tools, such as BIM, for public works contracts. The aim is to enhance efficiency, transparency, and innovation in public procurement processes.

A.2.1 has provided detailed research to conform a report on the current status of BIM uses providing an overview of the status of BIM in Belgium, Germany, Greece, Italy, and Slovenia, the countries that are represented in the BIM4D consortium. The second part of the research has been devoted to the use of BIM for deconstruction considering various elements: theoretical perspectives, benefits, current skills needs, challenges, relating policies and links with sustainable waste management.

A.2.2 - Needs assessment on current skills needs of the use of BIM at EOL practices has been implemented via a survey to understand the skills required for effectively using Building Information Modeling (BIM) in the deconstruction phase of construction projects and detect skills needs to design the training within the BIM4D project. The survey has been addressed to professionals and companies who use BIM in their regular work or who have knowledge of the topic or who consider BIM an opportunity for their company.

A.2.3 - Exchange between construction/deconstruction workers and education professionals on the BIM use at EOL practices: Strengths and challenges has been implemented via workshops designed to foster exchange between construction, deconstruction workers, and education professionals regarding the use of Building Information Modeling (BIM) in End of Life (EOL) practices. The focus is on discussing the strengths and challenges of BIM in facilitating sustainable deconstruction and material recovery. A workshop has been conducted in each participating country of the BIM consortium (Belgium, Germany, Greece, Italy, and Slovenia) with construction workers, deconstruction workers and educational experts.

Agenda of the Workshop

- **Workshop date: 03/10/2024 – Face-to-face**
- **PEDMEDE's premises: 23, Asklipiou str. 10680 Athens Greece**

- **Timeframe**

Timeframe: 14:30 – 16:30

5 minutes	Welcome – Opening
10 minutes	Introduction - BIM use in Greece
20 minutes	Presentantion of BIM4D project
40 minutes	Discussion on Digital integration in deconstruction and Strengths and challenges of digital in deconstruction –
10 minutes	Coffee break
30 minutes	Discussion of skill needs of current and emerging construction professions - Summary of discussion
10 minutes	Closing Remarks
120 minutes	

Profile of the participants

- **Number of participants:** 20 participants

Breakdown of professional roles: A short description of the participants by category:

- 14 construction workers
- 4 deconstruction workers
- 2 educational experts

Content of the discussion

This section details the topics covered and key points raised during the workshop discussions:

First, the project was introduced to ensure all participants had a clear understanding. Following that, a brief introduction was given to explain the main concept of the workshops. The results from a survey conducted as part of the project were shared, providing participants with further insights. Key topics were then discussed, including digital integration in deconstruction at each stage, the strengths and challenges of digital technology in deconstruction, and the skills required for both existing and emerging professions in the field.

Participants shared their insights based on their professional experience as construction and deconstruction companies, particularly with BIM.

Challenges and opportunities: Many emphasized that progress in BIM implementation across all phases of construction projects has been slow. Basic BIM skills are considered critical, and participants highlighted the importance of training in this area. One construction worker noted, “Training is a key part of the national strategy on BIM, but we still need better resources to make it effective.”

Participant comments: The lack of training at all stages of a construction project highlighted by almost all the participants. Many agreed that this skills gap needs urgent attention to ensure the sector can meet the demands of digital transformation. Training on using BIM for the deconstruction projects, especially for material recovery and reuse highlighted as Greece’s built environment includes many aging buildings requiring renovation or demolition.

Moreover, many participants emphasized the need for effective management of the as-built scope, specifically who does what, addressing the responsibilities of each role and tasks.

Main conclusions

Main conclusions:

Slow adoption of BIM technology and technical difficulties in integrating BIM with existing systems in Greece were highlighted.

Lack of streamlined workflows across project phases.

Many professionals in the construction and deconstruction industries are unprepared to effectively implement tools like BIM in their workflows.

Recommendations or suggestions made during the discussion could lead to future improvements:

- Creation of incentives for companies to adopt BIM technology.
- Tailored modules for different roles in the construction process, such as architects, engineers, project managers, and site supervisors. Each module should reflect the specific needs and responsibilities of these roles in relation to BIM.
- Alignment with the latest European BIM standards, such as ISO 19650, which outlines the organization and digitization of information about buildings and civil engineering works.
- Specific training on using BIM for the deconstruction and renovation projects, particularly for material recovery and reuse.
- BIM training should include integration with Geographic Information systems and managing spatial data.
- The use of 3D models and workforce that is capable to use for deconstruction projects are extremely important.
- Training modules specifically focused on the management of the as-built scope.

Photos or Screenshots


BIM4D