



R2.2

Needs assessment on current skills needs of the use of BIM at EOL practices

Greece Report

PEDMEDE

30.09.2024



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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 a 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.

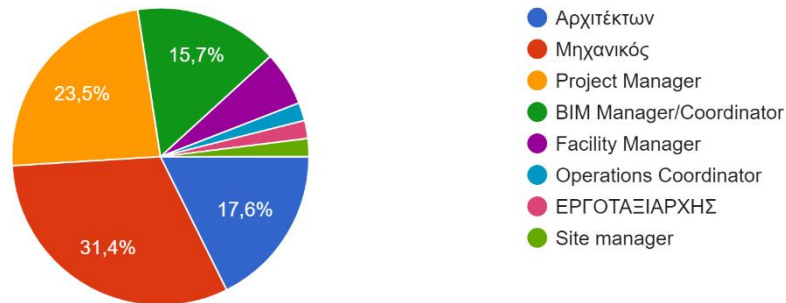
A.2.2 - Needs assessment on current skills needs of the use of BIM at EOL practices has been implemented via a survey to understand the skills required for effectively using Building Information Modeling (BIM) in the deconstruction phase of construction projects and detect skills needs to design the 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.

Profile of the participants to the survey

51 people participated in the survey and the chart below reports the percentage of the current role / position of the participants.

It is therefore possible to note that the **civil engineer** prevails.

Τρέχων Θέση/Ρόλος
51 απαντήσεις



The majority of participants were civil engineers (31.4%), followed by project managers (23.5%), architects (17.6%), and BIM managers (15.7%). The remaining participants included facility managers, operations coordinators, site managers, and foremen.

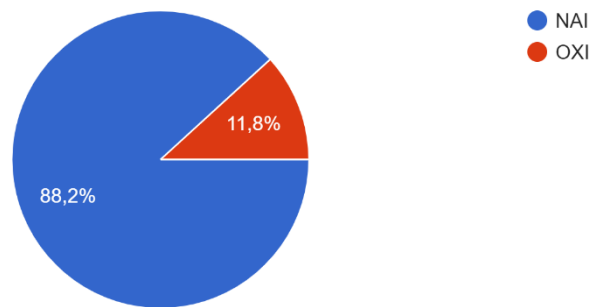
Presentation of the results of the online survey

Current use / knowledge of the BIM

1 - Is your organization aware of the digitalization of the construction supply chain (introduced by the ISO 19650 standard) through the BIM methodology?

1) Γνωρίζει ο οργανισμός σας την ψηφιοποίηση της αλυσίδας εφοδιασμού των κατασκευών (που εισάγεται από το πρότυπο ISO 19650) μέσω της μεθοδολογίας BIM;

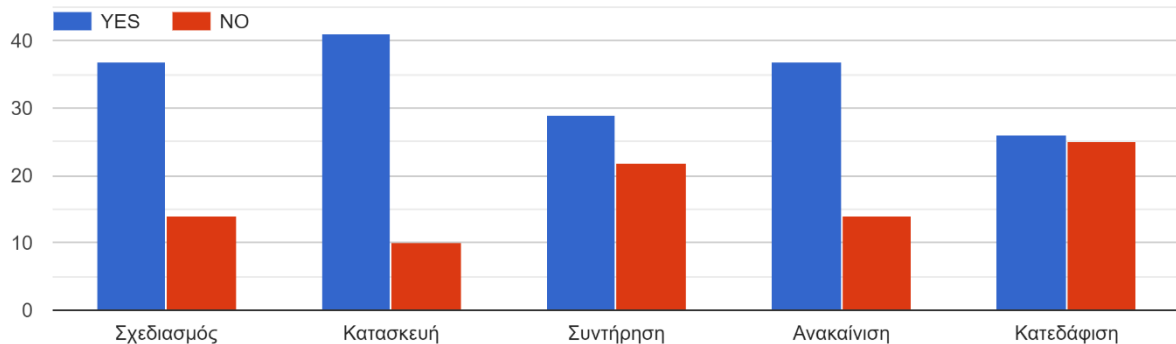
51 απαντήσεις



The vast majority of the participants (88,2%) was aware of the of digitalization in the construction supply chain, particularly through the ISO 19650 standard and its emphasis on BIM methodologies.

2 - Are you aware of or do you even partially use a BIM process in the following phases?

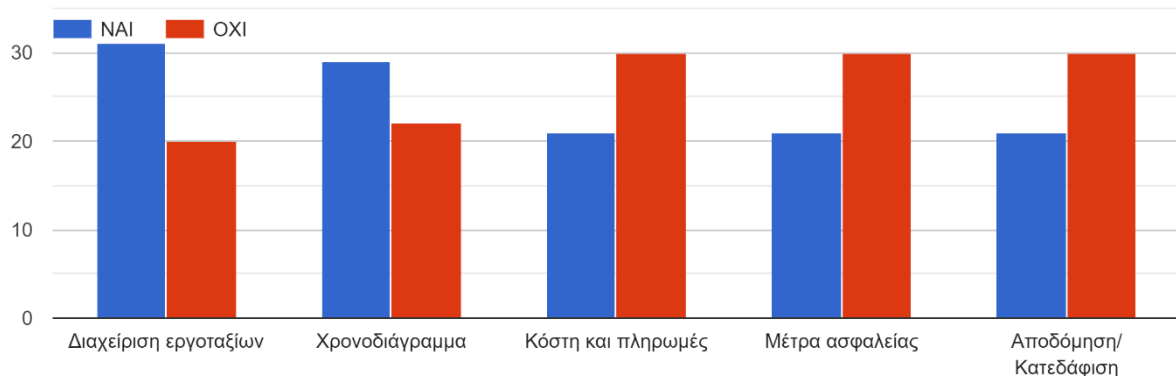
2) Γνωρίζετε ή χρησιμοποιείτε έστω και εν μέρει μια διαδικασία BIM στις ακόλουθες φάσεις;



This chart illustrates BIM adoption across various project phases, from initial planning and design to demolition. There is extensive use in the design and planning stages, whereas at stage of demolition show less BIM integration.

3 - Have you ever used a BIM digital twin to manage one or more of the following aspects of a construction project?

3) Έχετε χρησιμοποιήσει ποτέ ένα BIM digital twin για τη διαχείριση μιας ή περισσότερων από τις ακόλουθες πτυχές ενός κατασκευαστικού έργου;



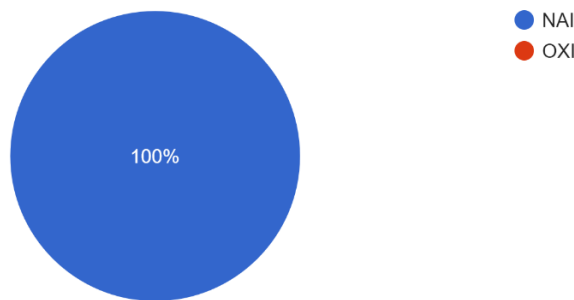


Most participants have used BIM digital twins to manage construction sites, costs, and timeline. However, the use of BIM for managing demolition or ensuring safety and security remains less common.

Perspective for the future

4 - Are you interested in developing an internal BIM process to digitalize company processes?

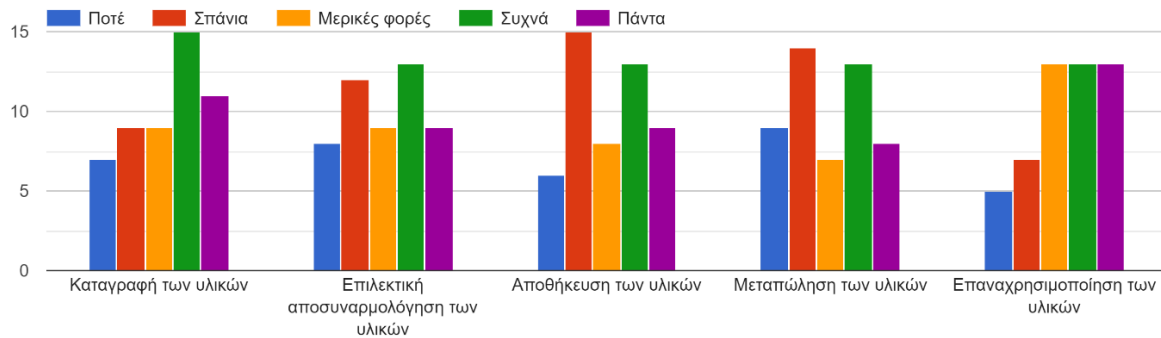
4) Ενδιαφέρεστε να αναπτύξετε μια εσωτερική διαδικασία BIM για την ψηφιοποίηση των διαδικασιών της εταιρείας;
51 απαντήσεις



This diagram reflects participants' interest in establishing or expanding internal BIM processes within their organizations. All of the participants were interested.

5 - To what extent is your organization active in one or more of the following phases of the demolition process?

5) Σε ποιο βαθμό ο οργανισμός σας δραστηριοποιείται σε μία ή περισσότερες από τις ακόλουθες φάσεις της διαδικασίας κατεδάφισης;

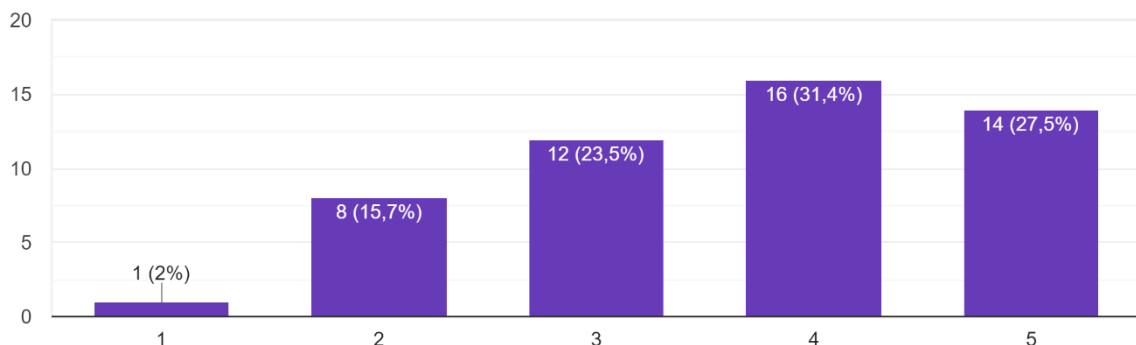


Generally, the degree of involvement in the different phases of demolition process is quite different between the phases and the organizations. For the inventory of materials, many organizations seem that they are active. For Selective dismantling of materials, some organizations are active in this phase but some other are not active or partially active in this phase. The storage of salvaged materials is a common practice, with many organizations frequently or always involved in this phase. The extent of involvement in reselling materials is moderate, with some organizations engaging regularly and others less so. Many organizations are actively in the reuse of the materials.

6 - How critical is it for your organization to have detailed component data in BIM libraries for effective end-of-life management?

6) Πόσο κρίσιμο είναι για τον οργανισμό σας να διαθέτει λεπτομερή δεδομένα εξαρτημάτων σε βιβλιοθήκες BIM για την αποτελεσματική διαχείριση του τέλους του κύκλου ζωής;

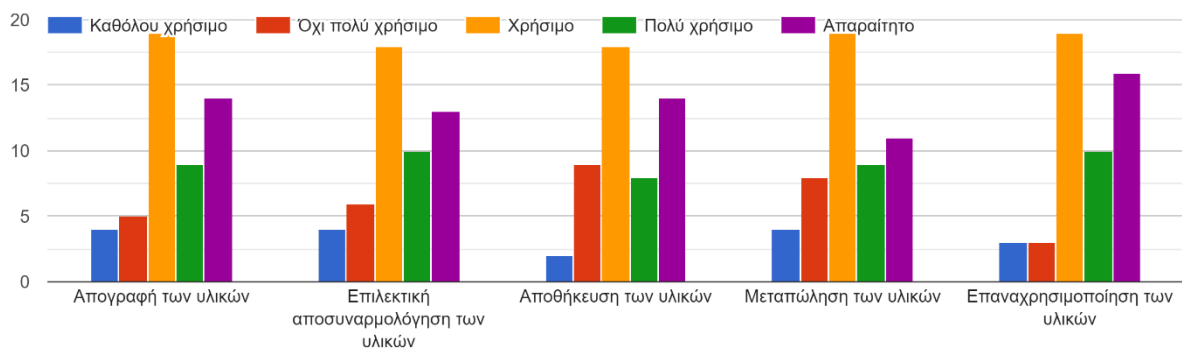
51 απαντήσεις



Detailed component data in BIM libraries for effective end-of-life management seems to be important for the most part of the participants.

7 - To what extent would it be useful for your organization to have a digital platform linked to a BIM model to manage the following aspects of demolition?

7) Σε ποιο βαθμό θα ήταν χρήσιμο για τον οργανισμό σας να διαθέτει μια ψηφιακή πλατφόρμα συνδεδεμένη με ένα μοντέλο BIM για τη διαχείριση των ακόλουθων πτυχών της κατεδάφισης;



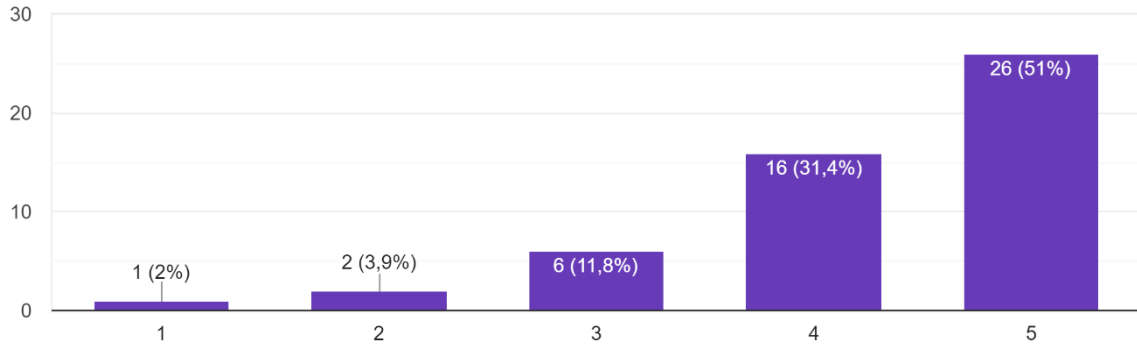
There is strong interest in having a digital platform connected to BIM models to manage aspects of demolition such as disassembly and recycling, underscoring the need for integrated digital solutions.

8 - To what extent do you see a need to upskill your existing workforce in digital data and information management (BIM)?



8) Σε ποιο βαθμό θεωρείτε ότι υπάρχει ανάγκη για επιμόρφωση του υφιστάμενου εργατικού δυναμικού σας στη διαχείριση ψηφιακών δεδομένων και πληροφοριών (BIM);

51 απαντήσεις

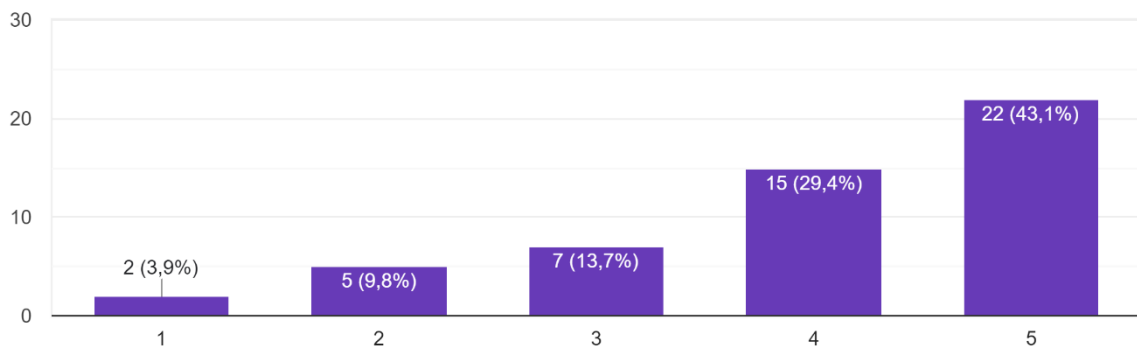


The majority of the participants recognizes the need to upskill their workforce in BIM and digital data management.

9 - To what extent do you think there is a need for an upskilling of the workforce for the digitalization of building demolition

9) Σε ποιο βαθμό πιστεύετε ότι υπάρχει ανάγκη επιμόρφωσης του εργατικού δυναμικού για την ψηφιοποίηση της κατεδάφισης κτιρίων;

51 απαντήσεις

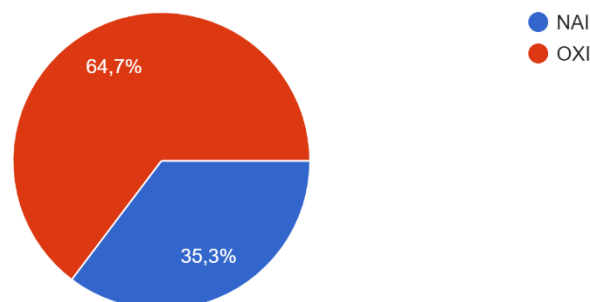


The participants find the need of upskilling the workforce for the digitalization of building demolition extremely important. This chart reflects a strong demand for upskilling.

10 - Do the BIM models used by your organization include detailed information on the disassembly and recyclability of materials?

10) Περιλαμβάνουν τα μοντέλα BIM που χρησιμοποιεί ο οργανισμός σας λεπτομερείς πληροφορίες σχετικά με την αποσυναρμολόγηση και την ανακυκλωσιμότητα των υλικών;

51 απαντήσεις

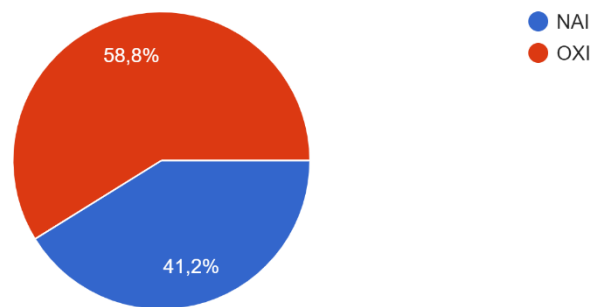


The inclusion of detailed information on material disassembly and recyclability in BIM models is limited, indicating a significant gap in current practices.

11 - Is there a process in place to update the BIM model throughout the lifecycle of the building to reflect renovations and changes accurately?

11) Υπάρχει κάποια διαδικασία ενημέρωσης του μοντέλου BIM καθ' όλη τη διάρκεια του κύκλου ζωής του κτιρίου ώστε να αντικατοπτρίζει με ακρίβεια τις ανακαινίσεις και τις αλλαγές;

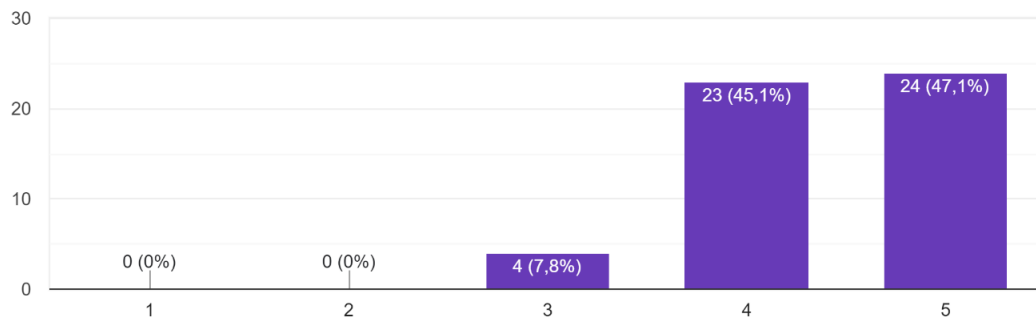
51 απαντήσεις



12 - Do you think it is important to have a BIM model that can simulate the deconstruction process to optimize material recovery?

12) Πιστεύετε ότι είναι σημαντικό να έχουμε ένα μοντέλο BIM που μπορεί να προσομοιώσει τη διαδικασία αποδόμησης για τη βελτιστοποίηση της ανάκτησης υλικού;

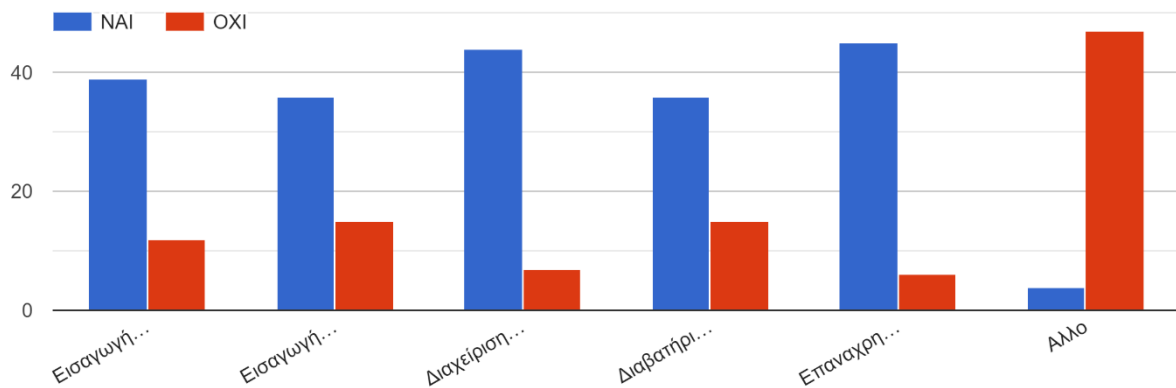
51 απαντήσεις



Participants find extremely important to have a BIM model that can simulate the deconstruction process to optimize material recovery.

13 - What topics would interest you in a training course on BIM and building end-of-life?

Ποια θέματα θα σας ενδιέφεραν σε ένα εκπαιδευτικό πρόγραμμα για το BIM και το τέλος του κύκλου ζωής των κτιρίων;



Participants find interest in the following topics Inventory of materials, Selective dismantling of materials, Storage of materials, Reselling of materials, Reuse of materials. On the “other” option the following has been indicated: As-Built Scope Management: Roles and Responsibilities



Conclusions

Most participants are aware of BIM's potential in digitalizing construction processes.

While BIM is well-utilized in early project stages, its application in end-of-life (EOL) processes remains limited. This gap presents an opportunity for industry, particularly through specialized training focused on deconstruction, recyclability, and waste reduction using BIM.

Most participants have used BIM digital twins to manage construction sites, costs and timeline of a project. However, the use of BIM for managing demolition or ensuring safety and security remains less common

The strong demand for upskilling in BIM and digital data management reflects the industry's recognition of evolving requirements in construction and deconstruction. Providing accessible, targeted training that covers BIM application across all project phases, including demolition and deconstruction, could greatly enhance the workforce.

Participants expressed interest in training topics related to building end-of-life processes, including inventorying materials, selective dismantling, storing, reselling, and reusing materials. The "other" category also highlighted interest in topics like "As-Built Scope Management: Roles and Responsibilities."