

## A.4.1

# National Policy Report



- **IIPLE - ISTITUTO PER L'ISTRUZIONE PROFESSIONALE DEI LAVORATORI EDILI DELLA PROVINCIA DI BOLOGNA**
- **FORMEDIL VICENZA - SCUOLA COSTRUZIONI ANDREA PALLADIO**

Italy



**Novembre 2025**



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## 1. Round Table in Bologna

### 1.1 Basic information

- **Partner:** IIPLE – Professional Institute for Building of Bologna
- **Date & Location:** Bologna, October 23, 2025 (in presence)
- **Number of participants:** 31

#### Sectors represented:

- Construction and deconstruction companies
- Vocational training institutions (VET)
- Public administrations
- Trade associations and professional orders

### 1.2 Agenda

#### Round Table: Policies for Integrating BIM into End-of-Life (EOL) Practices

**Date:** 23 October 2025

**Location:** IIPLE, via del Gomito 7 – Bologna

**Duration:** 2 hours

**Organizer:** IIPLE – Professional Institute for Construction of Bologna

**As part of the Erasmus+ BIM4D project (2023-1-EL01-KA220-VET-000158810)**

#### 10:00 – 10:10 am | Welcome and Introduction

- Initial greetings and introduction of participants
- Presentation of the **BIM4D project** and the objectives of the round tables
- Explanation of the participation and informed consent procedures

#### 10:10–10:30 a.m. | Presentation of project results

By IIPLE / Moderator

- **A transnational analysis of the use of BIM in construction and deconstruction practices.**
  - Main results and training needs identified

#### 10:30–11:55 a.m. | Discussion with stakeholders

**Moderated Roundtable – Focus on Challenges, Needs, and Future Policies**

##### 1. Current status and potential of BIM in EOL practices

- How is BIM used in deconstruction today?
- What benefits and opportunities does the green transition offer?

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## 2. Barriers and obstacles to BIM adoption

- Technical, organizational and skills deficiencies
- Economic and institutional difficulties

## 3. Skills and training needs

- Professional profiles to be retrained
- Relevance and adaptability of BIM4D training modules

## 4. Collaboration and value chain

- How BIM can improve cooperation between industry stakeholders
- Role of institutions, VET providers and companies

## 5. Policies and support tools

- What national or European policies are missing?
- Incentives or support schemes useful for promoting the use of BIM at the end of life

### 11:55 AM – 12:00 PM | Conclusions and Closing

- Summary of the points raised (by the moderator)
- Thanks

## 1.3 Roundtable Details

The meeting represented an opportunity for open discussion between professionals, institutional representatives and training operators to discuss the role of **Building Information Modeling (BIM)** in **End-of-Life (EOL) practices** of the built environment, in line with the objectives of the **BIM4D project – Developing green and digital skills for the use of BIM at end-of-life practices**.

After the introductory greetings from IIPLE, the session was moderated by Luisa Sileni, with Riccardo Cariani in charge of documentation and input collection. The meeting opened with the presentation of the results of **WP2** (transnational analysis of BIM needs and use) and **WP3** (training program) and then developed into a discussion structured around five thematic areas.

## 1.4 Key findings

### 2.1 General Perceptions and Introduction

All participants recognized the potential of BIM as a strategic tool for the **green transition**, particularly for improving the **circular management of construction materials** and the **traceability of building components**. It was highlighted that the application of BIM in the deconstruction phase is still in its infancy, especially among SMEs.

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## 2.2 Current Status of BIM in EOL

BIM practices are currently mostly limited to the design and construction phases. Only a few large companies and design firms integrate maintenance or decommissioning data. The most advanced experiences come from public projects with specific digitalization requirements (e.g., BIM-based procurement).

## 2.3 BIM Benefits and Potential

Participants identified the main advantages of BIM in EOL as:

- greater efficiency in planning demolition and material recovery.
- reduction of costs and times thanks to integrated information modeling.
- material traceability and potential use of **materials passport**.
- support for **circularity** and **environmental reporting**.

## 2.4 Challenges and Barriers

Several critical issues have emerged:

- **Poor** software interoperability and lack of common standards for “BIM for deconstruction”.
- **Limited digital culture** in SMEs and demolition companies.
- **High licensing costs** and difficulty accessing digital tools for small businesses.
- **Lack of specific policies** on the reuse and digital traceability of end-of-life materials.

## 2.5 Skills, Competencies, and Workforce Development

Representatives of the education sector stressed the need to strengthen:

- **digital** and environmental skills **integrated** into VET pathways.
- training on **BIM applied to deconstruction**, which is almost absent today.
- collaboration between companies and professional institutes to update training curricula.

Companies have highlighted the difficulty in finding technicians with skills in **information modelling, environmental data management** and **interoperable software**.

## 2.6 Training Needs and Improvements

The **BIM4D training program (WP3)** was found **relevant and useful**, but some improvements were proposed:

- introduction of **specific modules on LCA, CAM and digital twin**.
- using more accessible languages and interfaces for workers with less digital literacy.

### 2.7 Financial Considerations and Barriers

The costs of BIM implementation, combined with the lack of incentives, constitute a significant obstacle.

Suggestions have been made:

- **training vouchers** for the digitalization of businesses.
- **targeted funding** for the purchase of interoperable openBIM software.
- **Rewards in public procurement** for the use of BIM in the end-of-life phase of buildings.

### 2.8 Collaboration and Value Chains

All participants recognized the need for a **collaborative, cross-sectoral approach** involving:

- construction and demolition companies.
- local authorities and public administrations.
- training institutions and research centers. The creation of **local networks** for sharing data and best practices has been proposed.

### 2.9 Policy Gaps and Institutional Support

Several regulatory gaps have been identified:

- lack of **national standards** for BIM applied to the EOL phase.
- lack of **ministerial guidelines** on the digitalization of demolition and material recovery.
- need for a **harmonized European reference** for the management of “digital building logbooks”.

In a first phase, the salient points of Italian legislation were reviewed.

Italy currently has an advanced regulatory framework for the digitalization of construction processes, which has gradually introduced the mandatory use of **Building Information Modeling (BIM)** in public procurement and defined technical standards and operational guidelines. However, the practical implementation of these provisions is still ongoing and presents significant differences between central governments, local authorities, and private companies.

### a. Evolution of the legislative framework

The national regulatory process originates in **Legislative Decree 50/2016** (*Public Contracts Code*), which implements Directive 2014/24/EU and promotes the use of digital tools in the design and construction processes of public works, with the aim of increasing transparency, efficiency and environmental sustainability.

Subsequently, **Ministerial Decree 560/2017** (*Baratono Decree*) defined the methods and timeframes for the mandatory introduction of BIM in public procurement, according to a gradual approach:

#### Year of entry into force BIM requirement for works with a value equal to or greater than:

2019	100 million euros
2020	50 million euros
2021	15 million euros
2022	5.2 million euros
2023	1 million euros
<b>2025</b>	<b>all public works, regardless of the amount</b>

The decree also establishes that contracting authorities, to adopt BIM, must:

- prepare a **staff training plan**.
- equipping itself with a **data sharing environment (CDE)**.
- adopt **open and interoperable formats (openBIM)**.
- develop an internal **digitalization plan**.

The **updated Ministerial Decree 312/2021** integrated these provisions, specifying the importance of digital management of the entire life cycle of the work, including the use of the **digital twin** and data storage in shared environments.

With the new **Public Contracts Code (Legislative Decree 36/2023)**, which came into force on July 1, 2023, digitalization has become a structural and cross-cutting principle of the system. In particular:

- **Article 43** introduces the requirement for digital management of programming, design, procurement, and execution processes, through **interoperable platforms** compliant with European standards.

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- **Art. 44** confirms the use of electronic digital modeling methodologies and tools for all public works, extending their application to the **maintenance, management, and decommissioning phases.**

#### **b. technical standards and operational references**

At the same time, the Italian regulatory system has consolidated a technical reference corpus developed by the **UNI/CT 033/GL05 Technical Committee**, fully aligned with the international **ISO 19650 standards.**

The main rules include:

- **UNI 11337 (2017 and following)** – Digital management of construction information processes: definitions, roles and information contents.
- **UNI EN ISO 19650-1 and -2** – Collaborative information management using BIM.
- **UNI 11337-7:2018** – Definition of levels of detail (LOD, LOI, LOG).
- **UNI/ PdR 74:2019** – Guidelines for the qualification of BIM skills, which define the professional figures of:
  - *BIM Specialist,*
  - *BIM Coordinator,*
  - *BIM Manager,*
  - *CDE Manager.*

These figures are now recognized nationally and required in public tenders, including those for engineering and architectural services.

#### **c. Support policies and incentives**

The Italian government and local authorities have introduced measures to support the digital transition of the sector:

- **PNRR (National Recovery and Resilience Plan)** – Mission 1, Component 1: provides for investments dedicated to the digitalization of contracting authorities and the diffusion of BIM, including for the maintenance of public buildings.
- **Vouchers for digitalization and regional tenders** (Unioncamere, MIMIT, Chambers of Commerce) for BIM training and the purchase of interoperable software.
- **Rewards in public tenders** for operators who demonstrate certified BIM skills or previous experience in digitalized projects.

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- **capacity building programmes**, such as **BIM4D**, **ARISE** and **DigiPLACE**, which promote the diffusion of BIM as a tool for the green and digital transition.

#### d. Regulatory gaps and critical issues

Although the legislative framework is advanced, the roundtable participants highlighted some shortcomings that hinder the widespread use of BIM in the EOL phases:

- Lack of **national standards for informative modelling of demolition, reuse and recovery of materials**;
- Lack of **ministerial guidelines on “materials passport” and “digital building logbooks”**, which are essential for the traceability of materials and environmental reporting.
- Limited **integration between BIM, LCA (Life Cycle Assessment) and CAM (Minimum Environmental Criteria)**, which reduces the potential of BIM as a circular economy tool.
- Poor interoperability between **environmental databases** (EPD, ReMade in Italy, CAM) and digital BIM models.
- Reduced capacity of **SMEs** to invest in software, hardware and specific training.

#### e. Future directions

The development prospects identified include:

- the creation of **interoperable public platforms** for the integrated management of construction, maintenance and end-of-life data.
- the definition of **national guidelines** for the use of BIM in EOL practices and for **circular life cycle modelling**.
- the integration of BIM with artificial intelligence, **digital twin, and blockchain technologies** for continuous monitoring and traceability of materials.
- the promotion of **territorial networks and partnerships** between businesses, training institutions, and public administrations to share best practices and develop shared skills.

### 1.5 Evidence

- Signed attendance list
- Pictures

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## 2. Round Table in Vicenza

### 2.1 Basic information

- **Partner:** FORMEDIL VICENZA - SCUOLA COSTRUZIONI ANDREA PALLADIO
- **Date & Time:** Vicenza, 12th December 2025 from 3.00pm to 5.00pm
- **Number of participants:** 28
- **Sectors represented:**
  - Construction companies
  - Vocational educational trainers (VET)
  - Students
  - Apprentices from construction companies
  - Architects

### 2.2 Agenda

#### 3:00 p.m. – 3:10 p.m. | Opening session

Welcome and presentation of the agenda, *Formedil Vicenza*

#### 3:10 p.m.–3:30 p.m. | The BIM4D project experience

Presentation of the project and main results, *Formedil Vicenza*

**3:30 p.m.–4:30 p.m. | Round table** *Architect Michele Cicala, BIMLab srl, Engineer Andrea Tonolli, Head of Public Works and Sustainability, ANCE Verona*

- **Current status and potential of BIM in deconstruction and demolition practices**
- **Barriers and obstacles to the adoption of BIM4D**
  - Technical, organizational, and skills gaps
  - Economic and institutional difficulties
- **Skills and training requirements**
  - Professional profiles to be retrained
  - Relevance and adaptability of BIM4D training modules
- **Collaboration and value chain**
  - How BIM can improve cooperation between industry players
- **Role of institutions, vocational training providers, and companies**
  - Support policies and tools
  - What national or European policies are lacking?
  - Incentives or support programs useful for promoting the use of BIM at the end of the life cycle

#### 4:30 p.m. – 5:00 p.m. | Conclusions and networking aperitif

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## 2.3 Roundtable Details

The event opened with a welcome to attendees and a brief introduction to the context of the **BIM4D** project and main results, such as the training modules and the e-learning platform, by Nadia Di Iulio project manager at FORMEDIL VICENZA.

The roundtable, animated by sector experts such as **Arch. Michele Cicala** and **Ing. Andrea Tonolli (ANCE Verona Official, Public Works and Sustainability)**, was the core of the event, focusing on BIM adoption in End-of-Life practices.

The roundtable opened with a brief poll using Slido, to investigate the composition of the audience and which BIM software they already know. Following, the experts presented some key concepts and case studies of BIM use and application, to framework the discussion and provide the audience with a standard background. Finally, the discussion developed around five thematic areas as below. The main finding emerged is that currently, the use of BIM, particularly in the EOL of a building, is very limited. There is therefore a clear need to inform and train those involved (companies, workers, experts, professionals).

## 2.4 Key findings

### A. Current status and potential of BIM in deconstruction and demolition Practices

- Key points discussed:
  - Advantages: BIM applied to EoL (BIM4D) is essential for material inventory, planning selective demolition/deconstruction and estimating disposal/recovery costs.
  - Challenges: Most existing buildings lack a BIM model

### B. Barriers and obstacles to BIM4D adoption

- Key points discussed:
  - Technical, organizational, and skills shortcomings technical: lack of interoperable standards and specific level of information
  - Organizational: poor integration of demolition professionals in the early design phase.
  - Economic and institutional difficulties economic: high initial cost for adopting software and hardware, and lack of a clear perceived benefits in the short term.

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### C. Competence and training needs

- Professional profiles to reskill/develop:
  - EOL BIM manager: specialized in model management for deconstruction.
  - Deconstruction technician: with digital skills for using bim data on site.
  - BIM4D trainer: able to transmit the new methodologies.

### D. Collaboration and the value chain

- Improving cooperation among stakeholders, including demolition contractors and waste managers from the earliest stages
- Role of institutions, VET providers, and companies:
  - Institutions: must guide standardization and the introduction of BIM requirements for the EOL phase in public tenders.
  - VET providers: must update curricula in line with market needs.
  - Companies: must invest in training and the adoption of BIM software and procedures.

### E. Support Policies and Instruments

- Some participants highlighted the need and opportunity to better align labour policies with the real needs of businesses.

## 2.5 Evidence

- Signed attendance list
- Pictures.

## 3. Summary and Recommendations

The policy roundtables conducted in Bologna and Vicenza confirmed a strong convergence between the digital transformation of the construction sector and environmental sustainability objectives at both national and European levels. In this context, Building Information Modelling (BIM) emerges as a key enabling technology to support circular economy practices, particularly when extended beyond design and construction phases to include the end-of-life (EOL) management of buildings.

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Italy benefits from a well-developed legislative and technical framework for construction digitalisation. The progressive introduction of BIM in public procurement, initiated by Legislative Decree 50/2016 and reinforced through Ministerial Decree 560/2017 and subsequent updates, has been further consolidated by the new Public Contracts Code (Legislative Decree 36/2023). This regulatory framework establishes digitalisation as a cross-cutting principle covering the entire life cycle of public works, explicitly including maintenance, management and decommissioning phases. In parallel, national technical standards aligned with UNI and ISO norms provide a solid basis for interoperable and collaborative information management.

Despite this advanced framework, the roundtables highlighted a significant gap between regulatory provisions and their effective implementation, particularly with regard to end-of-life practices. BIM adoption in Italy remains largely focused on the design and construction phases, while its systematic use for demolition, deconstruction, material recovery and environmental reporting is still limited. This gap is most evident among small and medium-sized enterprises, which face constraints related to investment capacity, digital skills and access to interoperable tools.

A critical issue emerging from the discussions concerns the integration between BIM methodologies and environmental regulatory requirements. In the Italian context, public construction works are subject to mandatory Minimum Environmental Criteria (MEC), which define environmental performance requirements related to life cycle assessment, selective demolition, waste management, recycled content and material traceability. While MEC represents a powerful policy instrument for promoting sustainability and circularity, its operational implementation is often fragmented and poorly supported by digital tools, especially in the end-of-life phase.

The roundtables confirmed that BIM has a strong potential to support compliance with Minimum Environmental Criteria by enabling structured data management, integration of environmental information, material traceability and transparent reporting across the building life cycle. However, this potential remains largely underexploited due to the absence of national guidelines specifically addressing BIM-based modelling for demolition and deconstruction, limited interoperability between BIM models and LCA or environmental databases, and insufficient alignment between digitalisation policies and environmental regulations.

In this scenario, education and training systems play a strategic role. Vocational education and training (VET) providers are called upon to translate regulatory requirements and technological developments into concrete competences and professional profiles. The discussions highlighted a growing demand for skills related to BIM for end-of-life management, environmental data handling and compliance with Minimum Environmental Criteria, complementing the nationally recognised BIM professional roles. The BIM4D training programme was positively assessed as a relevant and timely response to these needs, while participants stressed the importance of further strengthening its links with MEC requirements and real operational practices.

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Overall, the conclusions of the policy roundtables can be summarised as follows:

- Italy has a mature legislative and technical framework that already provides the legal basis for extending BIM to end-of-life phases of buildings.
- The main barriers to BIM adoption in EOL practices are related to implementation capacity, skills gaps, interoperability and economic accessibility rather than to the absence of regulations.
- The mandatory Minimum Environmental Criteria (MEC) represent a key opportunity to operationalise circular economy principles but require stronger digital support and clearer guidance to be effectively implemented through BIM.
- Coordinated action among public administrations, training providers and industry stakeholders is essential to bridge the gap between regulatory objectives and practical application.

Strengthening the alignment between BIM-based digitalisation and Minimum Environmental Criteria can transform regulatory compliance into a concrete driver for sustainability, innovation and competitiveness in the construction sector. In this perspective, initiatives such as BIM4D play a crucial role in supporting capacity building and fostering a shared culture of digital and environmental responsibility across the construction value chain.

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