



# R.4.2

## National Policy Report



### CENTRE IFAPME LIÈGE-HUY-VERVIERS ASBL

Belgium



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### 1. Introduction / Roundtable Details

- **Name of the partner organization:** Centre IFAPME Liège-Huy-Verviers ASBL
- **Country:** Belgium (Wallonia)
- **Dates and locations (physical or virtual) of the roundtable**
  - 18<sup>th</sup> November 2025 (hybrid event) at Centre IFAPME LHV (Grâce-Hollogne site) as part of the **Working Group on Sustainable Construction**.

Participants from key construction, training, and sustainability organizations met to establish a working group aimed at promoting collaboration and integrating sustainable practices into construction training, including the use of digital tools such as BIM to facilitate (de)construction.

- 20<sup>th</sup> November 2025 (physical event) at Palais des Congrès (Liège) in the framework of the **Retrofit Innovation Summit** (<https://www.b2match.com/e/retrofit-innovation-summit>)

By joining the summit, Centre IFAPME LHV had the opportunity to engage with high-quality participants from across the construction value chain, including policymakers, researchers, architects, contractors, and industry innovators. Instead of attempting to organize an own separate event with the same participants, in the same period and city, this approach maximized the project's visibility and allowed for meaningful exchanges with key stakeholders.

- **Number of participants and a brief description of their profiles**

We reached a total of **33 participants**, representing a very diverse panel. The breakdown of profiles is as follows:

- Representatives from construction sectoral organisations and innovation clusters: **9**
- Training stakeholders: **6**
- Researchers: **6**
- Policymakers / members of public administrations: **4**
- Architects: **4**
- Construction companies: **4**

The panel brought together a wide range of perspectives across policy, research, training, and industry.

## 2. Key Findings

### 2.1 General Perceptions and Introduction

Participants consider BIM to be a relevant lever for improving sustainability, traceability and efficiency in construction and deconstruction projects.

Awareness of its benefits is increasing; however, adoption remains voluntary and largely limited to large-scale projects.

### 2.2 Current Status of BIM in EOL

The use of BIM at the end-of-life (EOL) stage remains very limited in Wallonia, both for deconstruction and renovation projects. In most cases, BIM is still primarily applied during the design and construction phases, while its potential to support informed decision-making at EOL is largely underexploited.

### 2.3 BIM Benefits and Potential

BIM enhances the planning, coordination, and monitoring of deconstruction tasks by providing a shared and structured digital representation of the building. This supports better anticipation of sequencing, constraints, and recovery potential, leading to more efficient use of resources and optimized costs.

BIM also strengthens material traceability through tools such as digital twins and material passports, which store detailed information on building components and materials throughout the life cycle.

### 2.4 Challenges and Barriers

The integration of BIM into EOL phases in Wallonia faces several significant challenges. First, the **absence of mandatory regulatory requirements** limits incentives for stakeholders to adopt BIM beyond the design and construction stages. This is compounded by a **lack of digital skills and dedicated human resources within SMEs**, which represent a large share of the construction and deconstruction sector. In addition, **resistance to organisational and technical change** remains strong, particularly where new workflows disrupt established practices.

The situation is further complicated by the **lack of shared standards and homogeneous data formats**, which hinders effective data exchange and collaboration between stakeholders.

At the same time, many digital tools are already in use across the sector for tasks such as inventories, waste management, or site monitoring, but these tools are often developed independently and are not connected to BIM models. This fragmentation raises the question of whether BIM should evolve to better integrate with, and interface between, these complementary digital solutions rather than operate as a standalone system.

Despite these barriers, several enabling levers have been identified. **Material passports**, in particular, are seen as a promising tool to improve material traceability and support circular economy practices at EOL. Likewise, **eco-design** is essential to facilitate easier deconstruction and higher-value material recovery. Finally, there is a clear need to **anticipate the long-term evolution of digital tools**, with particular attention to data accessibility, interoperability, and long-term data management throughout the entire building life cycle.

### *2.5 Skills, Competencies, and Workforce Development*

Skills development and upskilling represent a central challenge for the dissemination of BIM in EOL practices in Wallonia. Participants emphasised that effective BIM implementation requires not only technical digital skills in modelling (design and evolution) and data management (maintenance and scalability), but fundamentally **a comprehensive understanding of sustainability and circularity issues (eco-design)**. Awareness-raising around these new approaches is therefore essential.

- For **technicians and workers**, it is crucial to acquire practical mastery of digital models, to be able to read and interpret BIM plans, to follow material traceability, and to understand best practices for dismantling and reuse. These skills improve on-site accuracy while preserving the quality and value of recovered materials for future use.
- For **engineers and architects (design offices)**, the key competence lies in integrating building end-of-life considerations from the design phase onwards, including modularity, dismantlability and material flow planning. Mastery of 4D and 5D modelling is essential to effectively plan tasks, assess costs and anticipate the environmental impacts of technical decisions. These profiles must also be able to coordinate multidisciplinary teams and ensure BIM data consistency throughout the building lifecycle. This also applies to renovation projects, where buildings are partially deconstructed to give them a second life.

- For **clients and project managers**, it is crucial to develop skills in monitoring and exploiting BIM data, strategic planning of deconstruction, and assessing economic and environmental impacts. These actors must be able to make decisions based on reliable data, prioritise reuse and circularity actions, and ensure compliance with regional and national sustainability objectives.

In the absence of a BIM-based approach, other digital tools can still be integrated to achieve similar objectives.

Participants also stressed the importance of transversal skills for all profiles, including the ability to:

- work collaboratively,
- manage complex information flows,
- adapt to new technologies.

These observations are also valid for projects not originally designed using BIM.

Finally, strengthening these skills must go hand in hand with **an organisational culture that supports innovation and circularity**. Companies and teams need to be made aware of the economic, environmental and operational benefits of BIM and material reuse, moving beyond purely technical use towards a strategic vision of sustainable construction.

## 2.6 Training Needs and Improvements

The transition towards greater material reuse requires the development of **new skills** and, potentially, **new occupations**, such as material inventory specialists. These competencies are needed across all stages of the building life cycle, particularly for activities related to dismantling, reuse, and material traceability.

Participants emphasized the importance of an **integrated training approach that combines theoretical knowledge, practical application, and adaptation to different professional profiles**. Training programmes should therefore include **immersive learning methods such as site visits and hands-on workshops**. These formats allow participants to develop concrete skills both on-site and within digital environments, notably for deconstruction planning, material inventories, and traceability using BIM tools.

Training content should be tailored to the **specific roles of different stakeholders**. Technicians and workers need practical skills in model handling and material tracking; engineers and architects require competencies in team coordination and in integrating end-of-life considerations into design; and clients must be able to exploit BIM data to support planning and decision-making. Training should also address building management across the entire life cycle, supported by BIM standards and protocols that ensure data consistency and interoperability between stakeholders.

**Accessibility** remains a key challenge, particularly for SMEs. Flexible training formats are therefore essential and should combine face-to-face sessions, short targeted modules, and online courses. The winter period was identified as a particularly suitable time to train workers in structural trades (such as roofing and masonry) in these emerging skills.

Finally, training programmes must explicitly **link BIM usage to sustainability and circular economy objectives**, demonstrating how digital tools can support material reuse, waste reduction, and the optimisation of construction and deconstruction processes.

### *2.7 Financial Considerations and Barriers*

The adoption of BIM in EOL projects in Wallonia is constrained by **significant financial barriers**. Initial investments in software, hardware, and staff training represent a considerable cost, particularly for SMEs. In addition, the return on investment is often perceived as uncertain, as the benefits associated with waste reduction, material reuse, and resource optimisation are difficult to quantify at the scale of individual projects. Increased coordination between stakeholders and the management of collaborative workflows can also generate additional costs in the short term. Furthermore, public support mechanisms and financial incentives remain limited, which reduces the attractiveness of BIM adoption and, more broadly, of reuse-oriented practices. As a result, companies often struggle to justify these investments without clear economic signals or regulatory drivers.

Overcoming these barriers will require a **combination of measures**, including targeted subsidies, public–private partnerships, shared resources between companies, and greater awareness of the long-term economic benefits of BIM-enabled circular practices. Beyond financial instruments, a broader **shift in mindset** is also needed, supported by a collective ambition and a long-term vision that recognises BIM as a strategic enabler of sustainable and circular construction.

## 2.8 Collaboration and Value Chains

BIM facilitates coordination among architects, engineers, contractors, waste managers, and project owners, particularly during the **construction phase**. However, its potential goes far beyond the construction site. BIM can also play a crucial role in the **long-term operation of buildings**, supporting day-to-day management, maintenance activities, and strategic decision-making over the entire life cycle of the asset. That said, the use of BIM for daily operations and for the end-of-life phase of buildings is still not yet widespread and remains an area with significant room for development.

In addition, BIM supports **material traceability** and the **monitoring of material flows throughout the circular economy value chain**. By providing structured and reliable data on building components, BIM enables better tracking of materials from design to end of life, which is essential for reuse, recycling, and responsible waste management. In this context, the development of **material passports** becomes a key lever to enhance transparency and value retention over time.

To fully realize these benefits, a **wide range of stakeholders** must be involved throughout the building life cycle.

- Upstream, this includes project owners, contractors, architects, engineers, trainers, and regulatory authorities, who define requirements, standards, and practices.
- During the operational phase, building managers and maintenance staff are essential actors, as they rely on BIM data to ensure efficient day-to-day operation.
- Finally, actors involved in deconstruction, waste management, and material recovery must also be engaged at the end-of-life stage, where BIM can support informed dismantling, material reuse, and circular strategies, although its application at this stage is still emerging rather than common practice.

## 2.9 Policy Gaps and Institutional Support

Public authorities play a pivotal role as project owners and drivers of innovation in the construction sector. Currently, circular construction practices, systematic material tracking through digital twins, and reuse remain largely voluntary, often requiring additional investment and limiting adoption to a small number of pioneering firms. To transform this niche approach into mainstream practice, public authorities must actively champion and invest in pilot projects that demonstrate the tangible environmental, economic, and operational benefits of digitally-enabled circular methods. By doing so, they can shift mindsets across the construction ecosystem and provide clear, evidence-based examples that inspire broader adoption.

- A particularly relevant example is the **ACEC site** in Herstal (Belgium), a 27-hectare former industrial brownfield undergoing a comprehensive circular redevelopment led by SPI and its partners, including the City of Herstal, Urbeo, and support from the Walloon Region and the European ERDF programme<sup>1</sup>. The project aims to depollute, repurpose, and transform the area into a sustainable, mixed-use urban quarter. Key strategies include selective demolition with on-site material reuse, incorporation of biosourced or recycled materials, integration of green infrastructure to support biodiversity and water management, and mobility-friendly urban design. Beyond its tangible redevelopment outcomes, this pilot serves as a learning platform, embedding circular thinking across all stages of the masterplan and offering practical experience to stakeholders across the construction ecosystem.

Complementing such pilots, the Belgian **GRO 2025 framework**<sup>2</sup> offers public authorities a robust, government-backed tool to set, measure, and communicate sustainability ambitions nationwide. Covering the Flemish, Walloon, and Brussels regions, GRO 2025 provides clear guidance on circularity, material reuse, component reversibility, and life-cycle assessment, structured across three progressive levels: Level 0 defines sustainability objectives during early planning, Level 1 integrates circular design principles in concept development, and Level 2 ensures detailed execution with material tracking and performance monitoring. Beyond guiding design and construction, GRO 2025 supports public procurement by allowing authorities to set minimum sustainability requirements, evaluate bidders' experience with GRO, assign award scores for higher performance, compare bids objectively, communicate sustainability ambitions clearly, and monitor and verify outcomes.

<sup>1</sup> <https://www.spi.be/posts/les-acec-transformer-une-friche-industrielle-en-un-site-circulaire/>

<sup>2</sup> <https://gro-toel.be/>

### 3. Summary

#### Stakeholder Reflections on WP2/WP3

WP2 assessed the current state of BIM in EOL practices, confirmed by stakeholders, showing that while BIM is valued for sustainability, traceability, and efficiency, its use at EOL remains limited and mostly voluntary, particularly in deconstruction and renovation projects.

WP3 responded with a structured training programme on BIM and deconstruction, providing theoretical knowledge and insights into circular economy practices, which participants found relevant and useful for raising awareness of sustainable EOL strategies.

#### Perceptions and Experiences

BIM is perceived as a tool that can optimize planning, reduce waste, enhance material traceability, and mitigate risks. Its potential for EOL practices remains largely underexploited, both for deconstruction and renovation projects.

Opportunities include better coordination between stakeholders, improved cost and resource management, and the facilitation of circular practices through material passports and digital twins. Perceived risks or barriers include limited collaboration due to fragmented processes, insufficient digital skills among SMEs, and the high initial investment required for software, hardware, and training.

#### Policy gaps and Institutional Needs

Stakeholders identified several shortcomings in current national and EU frameworks: the absence of mandatory regulations on circularity, material tracking, and reuse; limited financial incentives for BIM adoption; and a lack of structured support for pilot projects integrating digital tools with circular strategies. Public authorities have a critical role to play in addressing these gaps, including funding and implementing pilot projects, promoting regulatory frameworks, and demonstrating the long-term benefits of BIM-enabled circular practices. Examples like the ACEC site in Herstal show how pilot projects can embed circular thinking, foster innovation, and provide hands-on learning for companies and workers.

In this context, the Belgian GRO 2025 framework offers a powerful public tool to operationalize sustainability ambitions and promote circular construction. Covering the Flemish, Walloon, and Brussels regions, GRO 2025 provides harmonized criteria for material reuse, component reversibility, and life-cycle assessment.

Its three-level structure (from defining objectives in early planning, to integrating circular design in concept development, to monitoring implementation) guides authorities in embedding sustainability throughout project lifecycles. GRO 2025 can also be used in public procurement to set minimum sustainability requirements, assess bidder experience, assign award scores for higher performance, enable objective comparisons, communicate ambitions, and verify outcomes.

### Training and Upskilling Needs

There is a strong need to develop new skills and roles, such as material inventory specialists, to support BIM-based EOL practices. Feedback on the BIM4D training programme highlighted the importance of integrating theory and practice, with immersive methods such as site visits, workshops, and exercises within digital models. Training must be tailored to stakeholder profiles: technicians and workers require practical skills in model handling and material tracking; engineers and architects need to integrate EOL considerations into design and coordinate multidisciplinary teams; clients and project managers must be able to use BIM data for strategic decision-making. Flexibility and accessibility are key, particularly for SMEs, and training should explicitly link digital skills to sustainability and circularity objectives.

### Stakeholder Recommendations

- **Raise awareness among project owners and public authorities** about sustainability, circularity, and the benefits of BIM.
- **Train architects and engineers in eco-design at all stages of a project**, whether new construction or renovation.
- **Develop integrated training programs** that combine digital tools with end-of-life and material reuse knowledge.
- **Harmonize standards and workflows** to facilitate collaboration and ensure traceability of materials.
- **Train construction professionals from the outset to collaborate** more effectively across all stakeholders.
- **Support investments in BIM-enabled circular practices**, recognizing that initial costs generate long-term competitive and environmental advantages.



## Conclusion

For BIM to become an effective driver of circularity and responsible material management in Wallonia, a combined approach is needed. Public authorities must take a proactive role by funding pilot projects, supporting targeted training, and fostering collaboration between stakeholders. Alongside regulatory and financial measures, this approach will enable the construction sector to translate technological potential into concrete, sustainable practices, advancing both circular economy goals and long-term operational efficiency.