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National Policy Report

CCIS– Chamber of Commerce and Industry of Slovenia

Slovenia

December 2025

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BIM4D

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1. Introduction / Roundtable Details

- **Name of the partner organization**: CCIS– Chamber of Commerce and Industry of Slovenia (slov. GZS-ZGIGM)
- **Country**: Slovenia
- **Dates and locations (physical or virtual) of the roundtable**
  Two national roundtables were held in Slovenia under the auspices of the CCIS - Chamber of Construction and Building Materials Industry at CCIS headquarters in Ljubljana. The first event took place on 16 October 2025 and the second on 23 October 2025. Both were conducted live and in person.
    - 16 October 2025: **39** participants (excluding GZS staff), including representatives from construction companies, engineering consultants, digitalisation and technology providers, municipal and national authorities, researchers, and VET institutions.
    - 23 October 2025: **21** participants (excluding GZS staff), mostly industry professionals, building managers, digital solution providers.

  Together, these events brought a diverse group of 60 national stakeholders to discuss the state of BIM integration in End-of-Life (EOL) practices, with a focus on selective deconstruction, material traceability, and circularity.

2. Key Findings

2.1 General Perceptions and Introduction

Participants recognised the strategic relevance of BIM for end-of-life practices in construction, particularly in light of EU Green Deal ambitions, the Ecodesign for Sustainable Products Regulation (ESPR), and the upcoming introduction of Digital Product Passports (DPP). However, the Slovenian construction ecosystem is still at an early stage in understanding how digital tools such as BIM can be operationalised in deconstruction contexts. Many stakeholders were attending a discussion on this topic for the first time.

The roundtables underlined that BIM for EOL is still largely conceptual in Slovenia, with sporadic pilot applications but no systemic use across the sector.

2.2 Current Status of BIM in EOL

While BIM is increasingly used in the planning and construction phases—especially in new larger, public or infrastructure projects—its use in EOL workflows remains negligible.

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There is no established methodology for applying BIM to renovation or demolition works, and existing building stock lacks digital models. Digital twins, laser scanning, and material inventorying are technically feasible but financially inaccessible for most Slovenian SMEs unless supported by public funding.

2.3 BIM Benefits and Potential

Participants agreed that BIM has the potential to:

- Support material traceability and reuse
- Facilitate better planning of selective dismantling
- Improve environmental performance through material data transparency
- Reduce waste and operational errors

BIM can also improve coordination between contractors, architects and waste managers. The use of BIM-based material passports was seen as a future enabler of sustainable building deconstruction, but the supporting ecosystem is still underdeveloped.

2.4 Challenges and Barriers

Key barriers include:

- Lack of digital maturity in SMEs
- Absence of national guidance or legal frameworks supporting digital EOL workflows
- Fragmented standards for material classification and reuse
- High cost of digital documentation of existing buildings
- Unclear data ownership and responsibilities in EOL processes

Several stakeholders expressed concern over the administrative burden introduced by new EU regulations without accompanying support mechanisms.

2.5 Skills, Competencies, and Workforce Development

Stakeholders consistently identified a major digital skills gap across the workforce. This includes:

- BIM modelling skills for renovation and demolition contexts
- Understanding of common data environments (CDE)
- Familiarity with circular economy principles and tools supporting work operations
- Basic digital literacy for on-site workers

Vocational schools often lack equipment, curricula and staff capacities to teach BIM with a focus on deconstruction and reuse.

2.6 Training Needs and Improvements

There was broad support for the BIM4D training modules, especially the focus on material passports and legal frameworks. Suggestions for improvement included:

- More interactive case studies, especially from Slovenian or regional projects
- Integration of SI public procurement examples
- Better linkage between BIM and national/international waste legislation

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2.7 Financial Considerations and Barriers

Participants highlighted the lack of incentives for digitalisation in EOL practices. BIM-related investments are not recognised (and so funded) in public tenders or cost-estimates for demolition/renovation projects. There is also no depreciation model that reflects digital asset creation for old buildings.

2.8 Collaboration and Value Chains

Stakeholders advocated for stronger collaboration between construction firms, technology providers, public authorities and training institutions. Examples from international forums (e.g. Circular Buildings Coalition, World Economic Forum) were cited, stressing the importance of collaborative innovation ecosystems for digital circular construction.

In Slovenia, vertical cooperation across the value chain is still weak and not transparent—general contractors, waste managers, material handlers, and design engineers operate in silos.

2.9 Policy Gaps and Institutional Support

Key gaps identified:

- No national/international standard for digital material inventories
- Absence of renovation passports or pre-demolition audit requirements
- No integration between digitalisation and national circular construction strategies
- Lack of long-term policy vision for BIM in EOL phase.

Participants expressed the need for clearer guidelines, harmonised EU standards, and financial support for early adopters.

3. Summary

3.1 WP2 and WP3 Insights – National Reflection

The two national roundtables in Slovenia confirmed the core findings of WP2 (Needs Assessment) and WP3 (Training Development), particularly the fragmented state of BIM use in End-of-Life (EOL) practices and the significant gaps in digital skills. Slovenian stakeholders recognised the value of the BIM4D training platform, especially its structure across key thematic modules and its accessibility in the national language. However, participants also stressed that local realities introduce several additional constraints not fully captured in the initial needs assessment:

- The economic context of the Slovenian construction sector, marked by shrinking investment capacity, labour shortages and productivity stagnation, significantly limits the ability of companies—especially SMEs—to experiment with or adopt new digital workflows such as BIM for deconstruction.

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- A strong divide persists between the conceptual understanding of BIM's potential and the actual operational capacity of companies to implement it in EOL projects.
- The fragmentation of regulations and lack of national guidance on digital deconstruction techniques—such as material passports or renovation passports—were cited as missing contextual elements that affect the applicability of the BIM4D training in real-life settings.

3.2 Perceptions and Experiences of BIM in EOL Practices

Stakeholders were broadly aligned in their perception that BIM has enormous potential to improve the circularity and sustainability of the built environment. In the context of deconstruction, this includes:

- Material traceability and reuse through digital inventories
- Improved project planning for selective dismantling
- Enhanced compliance with emerging EU obligations, including the Digital Product Passport (DPP)
- Stronger collaboration between designers, contractors, and waste managers

Yet, most stakeholders acknowledged that in current practice, BIM is still confined to the design and construction stages—rarely extending to renovation, refurbishment or dismantling. Real-life application of BIM for EOL workflows in Slovenia is mostly limited to demonstration projects or publicly funded research initiatives. The private sector, particularly SMEs, remains hesitant due to perceived costs, complexity, and lack of return on investment.

Participants also shared examples of international good practice (e.g. large-scale urban regeneration projects or circular public procurement in Nordic countries), noting that these case studies—also reflected in the BIM4D curriculum—can serve as inspiration, but are not yet replicable in the Slovenian market context without further support.

3.3 Policy Gaps and Institutional Needs

Participants highlighted several pressing policy and institutional gaps, both at the national and EU levels:

- Slovenia currently lacks a legal framework or strategic roadmap for digital deconstruction or BIM integration in EOL processes.
- There are no binding requirements for digital pre-demolition audits, renovation passports, or material inventories.
- EU standards for digital material passports and classification systems (e.g. CPR, ESPR) are still evolving and not yet transposed into national legislation.
- Waste transport and reuse regulations are often inflexible or contradictory, limiting cross-border circular material flows.

Stakeholders called for greater alignment between national circular construction strategies and BIM standardisation, alongside public incentives to facilitate early adoption. There is also a need for centralised digital infrastructure—such as common data environments or national material databases—to support the implementation of BIM-based EOL workflows.

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3.4 Training and Upskilling Needs

Feedback on the BIM4D training programme was generally positive. Participants valued the:

- Structure of the six modules, especially the progression from legal and technical foundations to practical applications
- Language localisation, which enabled broader access
- Inclusion of emerging topics such as renovation passports, circularity indicators, and deconstruction workflows.

However, stakeholders suggested the following improvements:

- Greater inclusion of Slovenian case studies and local references
- Interactive exercises that simulate real deconstruction scenarios
- More content related to public procurement, legal liability, and data ownership in digital EOL workflows
- Training materials for on-site use, such as mobile-friendly documentation tools

Several vocational school representatives expressed interest in integrating parts of the BIM4D training into their curricula, but noted a lack of equipment, BIM-qualified teachers, and infrastructure.

3.5 Stakeholder Recommendations

Concrete proposals from stakeholders included:

1. Develop national guidance on BIM for renovation and deconstruction projects, aligned with the Digital Product Passport and EU Circular Economy Action Plan.
2. Pilot public projects that demonstrate BIM-based deconstruction workflows, supported by ministries or municipalities.
3. Invest in VET infrastructure: provide funding for BIM-compatible software, hardware, and teacher training in vocational schools.
4. Create a national digital materials library that would serve as a reference for classification and reuse.
5. Link public tenders and green procurement rules with digital traceability criteria (e.g. requesting material passports as part of project documentation).
6. Establish cooperative alliances between architects, demolition firms, digital solution providers, and circular economy experts to explore joint BIM applications.

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3.6 Conclusion

The Slovenian national roundtables confirmed that the transition towards BIM-enabled deconstruction and circular end-of-life (EOL) practices cannot be viewed in isolation from the forthcoming European regulatory framework, in particular the revised Construction Products Regulation (CPR-2024) and the Digital Product Passport (DPP) system.
Discussions during the roundtables, as well as subsequent national expert dialogue in December 2025 involving the European Commission (DG GROW), FIEC and GS1, clearly indicate that DPP will become a central backbone of transparency, traceability and regulatory compliance in the construction sector. For the first time, technical, environmental and regulatory product data will be required to exist in structured, machine-readable and interoperable formats, enabling automated data exchange across value chains and digital systems.

From the perspective of deconstruction and EOL practices, stakeholders recognised that DPP represents a decisive enabler of genuine circular construction. Without reliable digital product data, circularity remains largely declarative. With DPP, however, it becomes possible to:

- identify materials and components embedded in buildings,
- assess their technical and environmental characteristics,
- support reuse, recycling and secondary material markets,
- and ensure compliance with evolving EU sustainability requirements.

In this context, BIM emerges as the natural integrator of DPP-related data at building and asset level. While DPP is primarily product-oriented, BIM provides the spatial, systemic and lifecycle framework within which product data can be aggregated, contextualised and operationalised—particularly in renovation and deconstruction scenarios.

The roundtables confirmed that BIM–DPP interoperability is not a future option, but a structural necessity for implementing circular economy principles in practice.

However, stakeholders also expressed a shared concern: the current level of digital readiness in the Slovenian construction sector is insufficient to fully exploit the potential of DPP and BIM-based EOL workflows. Findings from the Slovenian survey presented in December 2025—showing low awareness of CPR-2024, dominant use of PDF-based documentation, limited application of structured identifiers (e.g. GTIN/GLN), and a generally low self-assessed readiness for DPP—mirror the challenges discussed at the BIM4D roundtables. These results reinforce the conclusion that regulatory ambition alone will not deliver circularity without targeted support measures.

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The Slovenian case therefore illustrates a broader European reality: the introduction of DPP and CPR-2024 creates a powerful regulatory pull, but its success depends on the availability of:

- harmonised data standards and interoperable architectures at EU level,
- clear national guidance on implementation,
- practical digital tools aligned with industry workflows,
- and sustained investment in skills development, particularly for SMEs and vocational education systems.

Within this evolving landscape, the BIM4D project plays a strategically important preparatory role. By focusing on BIM use in EOL practices, material inventories, legal frameworks and deconstruction workflows, BIM4D addresses precisely those competences that will be required for effective DPP implementation in the construction sector. Stakeholders acknowledged that while project BIM4D approach alone cannot resolve structural or financial barriers, it contributes significantly to closing the knowledge and skills gap and to aligning national actors with forthcoming EU requirements.

In conclusion, the Slovenian roundtables underscored that DPP, BIM and circular deconstruction are not separate policy tracks, but interdependent elements of a single transformation pathway. If successfully aligned, they can enable a shift from fragmented, document-based compliance towards transparent, data-driven and verifiable circular construction practices. However, participants also highlighted that future progress will likely depend on more than training and awareness-raising alone. There is a clear need for a dedicated pilot project—national or transnational—that would test the real-world integration of BIM workflows, material inventorying, DPP requirements and selective deconstruction methods on an actual building or product. Such a pilot would not only validate the technical feasibility of integrating these innovations, but also provide a platform for refining data exchange standards, business models, and compliance tools under realistic conditions. Achieving circularity in practice requires not only regulations and roadmaps, but demonstrated, replicable examples of implementation. A pilot integrating BIM, DPP and deconstruction in a real project context would be an essential next step towards unlocking systemic change.

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