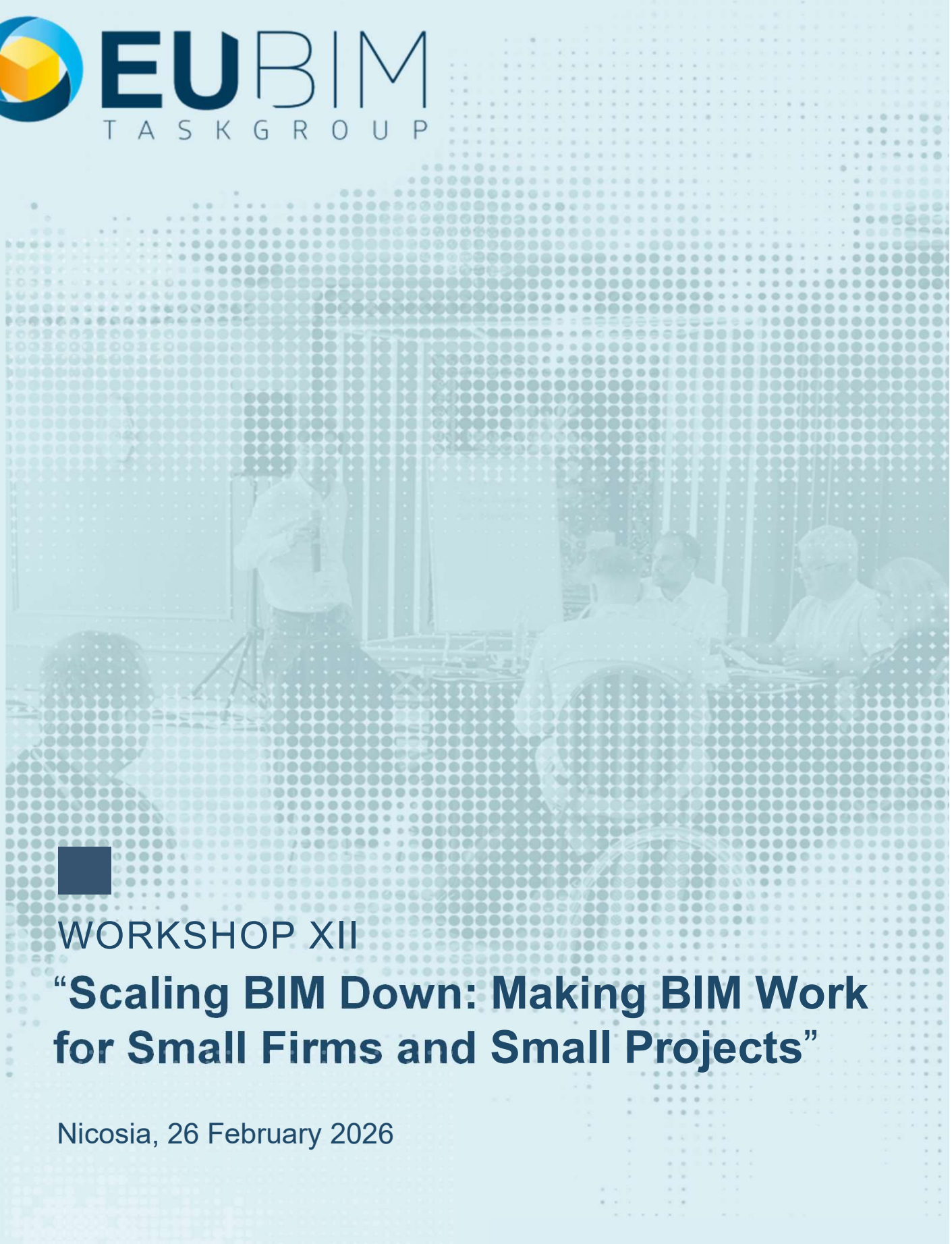
EU BIM TASKGROUP



WORKSHOP XII

“Scaling BIM Down: Making BIM Work for Small Firms and Small Projects”

Nicosia, 26 February 2026

EUBIM TASKGROUP

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Scaling BIM Down: Making BIM work for small firms and small projects

WHY?

EUBTG members came together to share knowledge, experiences and concerns regarding the challenges faced by SMEs in adopting BIM procedures and to formulate suggestions on how SMEs can overcome these challenges.

WHAT?

Practical experience, insights, concerns and challenges related to implementing BIM procedures and practices in small firms and small projects.

GOAL

To develop proposals for successful BIM implementation in small firms and small projects, concerning both an enterprise's internal procedures and EU-level strategies and with emphasis in ensuring quality control and maintaining consistency

WHO?

The workshop participants were representatives from 8 countries:
Luxembourg, Latvia, Estonia, Spain, Italy, Cyprus, Greece, Switzerland

THE OUTPUT IS INTENDED FOR THE ACHIEVEMENT OF COMMON GOALS

- A free market
- A transparent and non-discriminatory competitive environment
- Efficient spending of public money
- Support for digitalization
- Commitment to the Green Deal through targeted efforts to reduce our environmental impact

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SESSION 1: Challenges for a small firm to make the leap to BIM practices

→ The workshop brought together professionals from the AEC sector to discuss the barriers and opportunities associated with the adoption of BIM by small and medium-sized enterprises (SMEs). Despite the growing importance of BIM as a key driver of digital transformation in the construction industry, SMEs face a number of challenges that limit their ability to adopt BIM practices. These challenges span systematic, financial and organizational and workforce-related dimensions, reflecting both structural limitations within the industry and internal constraints within SMEs themselves. The discussions highlighted the need for stronger policy support, clearer implementation guidelines, improved training frameworks, and targeted financial incentives to facilitate the digital transition of smaller firms.

Key Challenges Identified

Systemic Challenges

- Uncertainty about the future of the construction market and the broader economic environment. This uncertainty discourages firms from making substantial investments in new technologies.
- As BIM adoption is not mandated by legislation, many firms choose not to implement BIM, creating a self-reinforcing cycle characterized by limited practical experience, insufficiently trained human resources and a slower pace of technological adaptation across the sector.
- The absence of legislative requirements has resulted in insufficient guidelines regarding the transition process and BIM adoption from public and European institutions (government bodies, competent ministries, technical chambers, etc.).
- Existing standards and requirements are often overly complex, making them more accessible to large enterprises while exceeding the operational scale and capacities of most SMEs. SMEs typically have a limited number of projects in their pipeline, leading to uncertainty regarding the value of the investment required to transition to a BIM-based working environment and project delivery model.
- Lack of market demand: Clients of SMEs are often unfamiliar with BIM and do not request BIM implementation in projects and are generally unwilling to cover the additional costs associated with BIM-enabled design or construction. This lack of market demand makes it difficult for SMEs to recover the additional costs associated with BIM implementation in design or construction processes.
- Resistance to change remains a significant barrier within organizations and enterprises. However, this seems to be a more significant barrier for large enterprises, as in small firms, typically the decision to make the leap to BIM practices is collective and thus resistance to change is not considered such a significant barrier compared to larger firms. In the same context, training personnel was not considered to be more difficult for SME's compared to larger enterprises.
- The absence of a coordinated top-down approach to BIM adoption and digital transformation in the construction sector. Such an approach is widely considered essential, particularly for SMEs, as the most effective pathway towards digital transition. Government support and incentives (such as faster permitting procedures for projects with BIM implementation) are also crucial for firms to make the transition to BIM practices. Although BIM adoption should follow a top to bottom approach, with the public sector being a leading example, a bottom to top approach is also necessary with regards to education. In particular, support should also be provided by universities, as BIM-ready professionals entering the market will facilitate the shift towards a BIM-oriented future.

Financial Challenges

- High upfront costs for **hardware acquisition**.
- High costs associated with **software procurement** and **recurring license** renewals.
- These financial challenges are exacerbated by the nature of projects typically undertaken by SMEs, as smaller scale projects often come with limited profit margins, hindering investment in new technologies.
- The **Return on Investment (ROI) is not immediately visible** or clearly understood, and there is generally limited awareness of BIM's potential benefits and long-term economic value.

Talent Shortage & Workforce Challenges

- Lack of adequately trained professionals with BIM competencies across the sector.
- Difficulty retaining highly qualified talent, as skilled professionals often demand higher salaries that larger firms are better positioned to offer, leading to a migration of talent toward larger organizations.
- Employees in SMEs typically perform multiple roles and have multiple responsibilities, which significantly increases their daily workload and limits the time available for training, upskilling and adjustments in workflows, as well as time for developing processes and project delivery practices, making the transition to BIM more challenging. However, while training personnel may be considered a greater challenge for SMEs, in terms of financial costs and available time, the training of personnel itself was not considered to be more challenging compared to larger firms.
- There is a considerable lack of training in BIM processes, workflows and collaborative methodologies, even among professionals who have received training in BIM-related areas.

→ These challenges illustrate the complexity of the transition toward BIM adoption for SMEs.

→ Addressing these challenges will require **coordinated efforts from policymakers, industry organizations, educational institutions, technical chambers and the public and private sector** in order to create a more supportive ecosystem for digital transformation in the construction industry.

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SESSION 2: What would be an efficient roadmap for small firms to implement BIM procedures

Key principles for developing an effective BIM Implementation Roadmap

→ Successful BIM adoption requires the development of a structured and realistic implementation roadmap that is tailored to the specific needs and operational capabilities of each enterprise.

→ BIM adoption should not be viewed as a single technological transition but rather as an ongoing and cyclical process involving continuous learning, application, evaluation and refinement.

→ While the roadmap itself is primarily an internal process for each organization, public institutions and industry bodies are expected to play an important role by providing guidance, structured frameworks, and best practices that can support firms during the transition. Such guidance could include the provision of templates, such as BEP templates and practical examples (e.g. ISO 19650 standard implementation examples) that can support SMEs in navigating the transition. National strategies should also include incentives for BIM adoption, such as offering fast track planning permits for projects implementing BIM.

Step-by-Step approach for BIM Implementation for SMEs and for establishing a "Minimum Viable BIM framework"

To create an effective roadmap following a structured, step-by-step approach, enterprises should:

- Understand the benefits of BIM implementation and consequently understand why they want to implement BIM
- Clearly define their strategic objectives and what the organization aims to achieve through BIM adoption and assign specific internal responsibilities for BIM Implementation.
- Conduct a gap analysis – identify existing deficiencies, skill gaps, and operational limitations (i.e. with regards to tools and processes) that need to be developed.
- If necessary, hire a BIM expert and assign responsibility for leading internal training and implementation and coordinating the training efforts.
- Build Internal capacity through targeted staff training: Proceed with training of personnel, ensuring that employees acquire the necessary technical and methodological knowledge.
- Establish internal standards that define workflows, collaboration protocols and project requirements.
- Move forward with a pilot project – analyze KPIs, identify problems and conduct a review of lessons learned - Implementing BIM through pilot projects allows organizations to test new processes in a controlled environment. By monitoring performance indicators and systematically reviewing lessons learned, firms can refine their internal standards and gradually scale BIM practices across their operations.
- Revise the standards based on insights gained from the pilot project and early implementation experience.

A BIM implementation roadmap divided into phases

An effective roadmap structured across four key phases, enabling SMEs to gradually build capacity and integrate BIM practices into their operation:

Learning Phase	Understanding Phase	Doing Phase	Evolving Phase
• Build foundational knowledge • Structured training programs & microcredentials • Study established standards (ISO 19650) and LOIN with practical examples • Learning through the use of templates (BEP, workflows/process templates) • Learning from shared success stories and best practices examples.	• Understand before acting • Map current vs desired future processes (AS-IS → TO-BE) • Review real examples and establish best practices • Establish bottlenecks and tools to overcome them • Align teams on common internal standards	• Implement BIM gradually through pilot projects, choosing simpler projects as pilot projects and the right time to make the transition • Track performance with KPIs (such as reduction in rework improved co-ordination efficiency, cost predictability), OKRs, ROI • Use available grants or support tools • Apply digital governance and open data practices • Follow mandates where applicable	• Iterate and improve • Assess lessons learned • Revise standards and workflows • Scale BIM to next projects • Measure value and profitability • Strengthen ecosystem participation • Share experiences with peers • Attend conferences and workshops • Participate in clusters or professional networks

➢ Overall, a proportionate and realistic approach is required for BIM implementation by small firms, that could help position BIM as accessible and scalable, rather than complex and resource-intensive.

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SESSION 3: Incorporating BIM procedures in SMEs and re-engineering BIM procedures for small projects

→ BIM implementation for SMEs and small-scale projects succeeds when it remains simple, responsibility-driven, standardized yet flexible, and focused on delivering tangible project value. Successful BIM adoption for SMEs depends primarily on clear responsibilities, structured processes, trained teams, and continuous improvement, rather than on the size or complexity of the firm.
→ Critical thinking should be applied in deciding which parts of ISO 19650 should be applied to a specific project, bearing in mind that any procedures decided to be incorporated in the project should be according to the standards. BIM implementation should remain proportional to the scale and complexity of each project, with a strong emphasis on efficiency, measurable outcomes, and tangible improvements in project delivery.

Key Implementation Principles

Establish a clear organizational structure early	• Identify project needs, responsibilities and BIM roles (align traditional project roles with BIM roles and responsibilities). • While some organizations may choose to introduce a dedicated BIM Manager, there is no universal formula for structuring BIM roles within SMEs. Firms may adopt flexible and creative approaches, depending on their size and internal capacity. However, it should be noted that a BIM Manager role is required under ISO frameworks. • Use technology, including BIM tools and Artificial Intelligence, while recognizing that AI does not perform a managerial function. • Focus on responsibilities rather than titles. • Ensure at least two core functions within BIM workflows: production and approval. • Assign one coordinating person, who may also hold a dual role within the organization.
Align BIM practices with standards and regulatory frameworks	• Follow ISO frameworks and national BIM requirements • Utilize tools such as LOIN and EIR alongside real examples to guide implementation. • Combine regulatory requirements with traditional workflows to facilitate smoother implementation. • Include government guidance, support mechanisms, training initiatives and audit procedures.
Build strong procedural foundations within the organization	• Establish clear steps, defined deliverables, technical requirements and workflows/standardized procedures. • Provide tutorials, templates for common data environment, and best-practice guidance to accelerate the learning process. • Lock templates and include QA and checking procedures to ensure consistency and reliability in project delivery. • Identify and resolve micro-problems at each stage (standards → regulation → design). • Follow internal procedures and establish company standards for ensuring consistency • Ensure efficient communication within the team
Invest in people and skills	• Deliver solid baseline training for the entire team – thus minimizing the risk of personnel leaving the company • Provide project- and value-oriented learning approaches. • Accept that BIM roles do not follow a single formula and adopt flexible and creative organizational structures. • Consider role compression or reassignment depending on the size of the firm.
Use technology strategically (BIM and AI)	• Apply coding and automation to eliminate repetitive tasks, thereby improving productivity, while project decision-making remains a human responsibility. • Ensure consistency and data reliability. • Treat BIM as an information management system rather than simply a software tool. • Embed Review and Continuous Improvement • Implement quality control and audit processes. • Encourage feedback and capture lessons learned. • Continuously review procedures and refine them.
Focus on practical value	• Target practical use cases such as clash detection, consistency checks, and MEP coordination. • Keep implementation proportional to the scale of the project. • Prioritize efficiency and measurable project value. • Maintain a strong focus on practical value throughout implementation.

SESSION 4: Quality control, data auditing and LEAN practices in small firms

→ Participants highlighted an important distinction between large organizations and SMEs in the way quality control and data governance are implemented. In large companies, quality control and data auditing are typically managed by dedicated and institutionalized departments, operating through clearly defined procedures. In contrast, in small companies these functions are rarely formalized within separate departments. Instead, quality assurance and data control are embedded in the organizational culture and daily practices of the team.

→ The effective implementation and use of BIM is closely aligned with lean management principles, as both approaches aim to reduce waste, eliminate repetitive tasks and minimize the need for constant replanning. When BIM procedures are implemented correctly, they can significantly streamline workflows and improve project coordination, ultimately enhancing project delivery. In this context, maintaining high-quality information and reliable processes is essential not only for project success but also for safeguarding the long-term reputation and competitiveness of firms. Ultimately, a company's reputation plays a crucial role in ensuring continued access to projects and clients.

→ Beyond organization-level standards and practices, the successful implementation of BIM is directly linked to the project it is called to realize each time. Therefore, its effectiveness is directly linked to (and evaluated by) the level of how successful it is in meeting the requirements of each project itself.

→ BIM is inherently project-oriented. Its successful implementation is therefore assessed through the quality and completeness of the deliverables produced for each project. In this sense, the requirements of the project themselves become the metrics by which BIM implementation is evaluated.

Key Principles for quality control in BIM implementation (tailored for SMEs)	
Core Drivers	• Liability • Reputation • Cost
Standards, Procedures, and Governance	• Standards (all necessary tools already exist (such as IDS tools, IFC validation service, clash tools etc, common data environment templates); these tools effectively function as standards and serve as the foundation for effective BIM implementation). • Quality control procedures should apply consistently across all stakeholders involved in a project and be adapted to the specific characteristics of each project. • Quality control is project-based and not based on the size of the firm. • A Quality control Action Plan should be set from the outset of the project.
Quality Control in Small Projects and SMEs	• In small projects, the focus should remain on the project scope and required LOD, ensuring that quality assurance measures remain proportionate and practical. • If a minimum level of quality control is not ensured, the process cannot truly be considered BIM. • Establishing a set of requirements can significantly support project control and ensure that BIM processes are applied consistently. • In small companies, where few people work across multiple roles, self-checking mechanisms and internal verification processes become essential.
Data Reliability	• With poor-quality data, BIM becomes essentially worthless, as unreliable information undermines the entire digital workflow (i.e. cost estimation). In this context, poor-quality data significantly undermines the value of BIM, since the effectiveness of the methodology depends entirely on the accuracy and reliability of the information being managed.
Reputation and Professional Responsibility	• If a company develops a poor reputation, it risks losing future work and clients.
Accessible Tools and Practical Implementation	• Free tools can be used effectively and are capable of producing highly reliable results.
Planning Quality Control from the Beginning	• A quality control action plan must be established from the outset, as this ensures that all the stakeholders understand the procedures and responsibilities involved. Regardless of the internal procedures or standards adopted by each firm, it is of the utmost importance that, before the start of every project, all needs, requirements and expected deliverables are clearly and meticulously defined. • Organizations must understand the "rules of the game" before implementation. • Defining the Project needs: By clearly and explicitly defining the needs of each project before it begins, the metrics of quality and success are essentially defined by default.

Actionable Recommendations for facilitating BIM adoption in small firms and small projects	
Legislative Measures	• Gradual BIM mandates with defined milestones, starting from public projects
Financial Incentives	• Subsidies for software acquisition, • Subsidies for BIM training and for implementation of BIM practices
Educational Support	• Integration of BIM in academic curricula • Establishment of micro-credential programs for BIM training
Technical Guidance	• Establishment of simplified BIM frameworks • Provision of templates, such as BEP templates and practical examples (e.g. ISO 19650 standard implementation examples tailored for SMEs) that can support SMEs in navigating the transition to BIM practices.
Market activation	• Incentives for clients to adopt BIM, such as establishing fast-track permitting procedures for BIM-based projects.

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CONCLUSION

1. A coordinated top to bottom approach is considered essential for enabling SMEs to successfully navigate the transition to BIM practices. As part of the top to bottom approach, the public sector should be leading the way with regards to BIM adoption. Government support and incentives (such as faster permitting procedures for projects with BIM implementation) were also noted as crucial for firms to make the transition to BIM practices. A bottom-to-top approach is also necessary with regards to education. In particular, support should also be provided by universities, as BIM-ready professionals entering the market, will facilitate the shift towards a BIM-oriented future.

2. Although the roadmap to implementing BIM practices is ultimately an internal strategic process within each organization, institutional actors—including government bodies, technical chambers, and European organizations—can play a critical role by providing clear guidance, structured frameworks, templates, such as BEP templates and practical examples (e.g. ISO 19650 standard implementation examples) that can support SMEs in navigating the transition.

3. Aligning BIM practices with recognized standards and regulatory frameworks is key to successful BIM Implementation. Following ISO standards and national BIM requirements, while also utilizing tools such as Level of Information Need (LOIN) and Exchange Information Requirements (EIR), supported by practical examples, is essential for BIM adoption in small projects. Integrating these regulatory elements with traditional project workflows can facilitate smoother implementation, particularly when supported by government guidance, training initiatives, and oversight mechanisms.

4. Standards and procedures were identified as essential components of quality assurance. The necessary tools and standards already exist and can serve as the foundation for effective BIM implementation. Quality control processes should apply consistently across all stakeholders involved in a project and should always be adapted to the specific characteristics of each project. In smaller projects, particular attention should be given to the defined scope of work and required LOD, ensuring that quality assurance measures remain proportionate and practical.