

What means BIM to me...

Why deal with BIM?  
Help build and operate buildings more efficiently and with better quality.  
The goal is definitely not to „do BIM“

How can BIM help if its content is only information?  
Quickly, comprehensibly and guaranteed to provide correct, valid and up-to-date information for decision-making (people and technology) at the right time and place

How do we achieve it?  
Collect all the necessary information about the building during its life cycle in one place  
create a digital model of the building  
Information means the linked collection of digital models, documents, processes and data

# WORKSHOP III

## PRACTICAL IMPLEMENTATION AND STRATEGY

**Rome, 7 November 2023**

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## THE WORKSHOP



### WHY?

Response to the needs of our members to specifically share their own knowledge, experience, concerns, and challenges that they go through when implementing information management (BIM) in their daily practice.



### WHAT?

Share of knowledge, experience, concerns and challenges



### GOAL:

To go into practical details about CDE implementation at both the project and the organizational levels with a focus on fair contract specifications and the client's CDE usage for the whole supply chain.



### WHO?

The workshop participants were representatives of EU policymakers and 19 participants from 8 countries (Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Italy and Spain) and representatives from the European Parliament.



### 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 digitization
- the Green Deal
- reducing the carbon footprint, etc



## WORKSHOP III

# PRACTICAL IMPLEMENTATION AND STRATEGY FINDINGS

1

BIM is part of a **digital transformation** in organisations, not just a stand-alone construction pilot projects. BIM must be anchored in the top management, approved and repeatedly supported in organisational BIM strategy, covering 3 critical overlapping aspects: **People, Digital Processes** and **Technology**.

2

The organisational BIM strategy aims to manage information by implementing complete digital processes across all necessary departments involved in project and asset management. The result must be **based on international/national standards**, including implementing CDE for project and asset information models (digital IFC models, documents, processes and communication). All must be implemented into organisation certifications under ISO9001 and ISO55000.

3

**The decisive factor in the success of BIM implementation is people**, not technology. Therefore, change management must be consistently applied based on respected enthusiastic evangelists and finding personal benefits for all positions involved. This must be expressed loudly in alignment with the organisational vision and mission, repeatedly and clearly communicated to all employees.

4

For successful change management, it is **crucial** to have ongoing and publicly **declared support from top management**. This support is vital not only at the outset but, more importantly, repeatedly throughout the implementation phase. Top management should set up an organisational culture - "don't be afraid of partial failures" during the change. Failures are natural and cannot be avoided during every transition. We just need to recognise them quickly and fix them without personal consequences.

5

**Top management of public clients** as wise leaders must acknowledge their responsibility as **frontrunners in the digital transformation** of the AEC industry and lead collaboration between necessary stakeholders in the industry.

BOTTLENECK	SUGGESTIONS	ACTORS
<p><b>1</b> Political changes with no long-term strategy</p> <p>BIM implementation is a long-term activity which needs continuous support from political and public clients' top management leaders.</p>	<p>Creating <b>national and organizational BIM strategies</b> for the long-term (decade) to allow the creation of <b>short and mid-term action plans</b> updated from practical feedback and digital development.</p>	<p><b>1</b></p> <p>European Commission (EC), national governments, public clients' top management</p>
<p><b>2</b> Technology interoperability</p> <p><b>Information management (BIM)</b> must be <b>based on respected international open standards</b> to avoid any vendor lock-ins to allow the free market to compete in new developments and services.</p>	<p><b>Finding a joint agreement on fundamentals on the EU level</b> would bring a clear message to national strategies and better influence standardization activities and market developments.</p>	<p><b>2</b></p> <p>- European Commission (EC), - national governments</p>
<p><b>3</b> Missing standards</p> <p>Although <b>fundamental standards</b> already exist, some still <b>need to be defined</b>. Also, there is a need to <b>improve their knowledge and guidance</b> on how to implement them in practice (tightly connected with 1 and 2).</p>	<p><b>Fasten the standards creation and approval process. Improve communication, training and guidance creation.</b></p>	<p><b>3</b></p> <p>Standardization organisations (ISO, CEN), BIM program leaders, industry associations, educating agencies and institutions</p>
<p><b>4</b> New roles definitions</p> <p>To build deeper trust and knowledge during the <b>digital transformation</b>, we need standardized <b>new roles definitions</b> or <b>changes to existing ones</b> with transparent responsibilities aimed at reasonably describing them in tenders and contracts.</p>	<p>Fasten CEN activities with EC should get involved in finding a <b>joint agreement for all countries</b> to allow <b>easy free market men's power flow</b>. On the organizational level, there is the need to set up a formal "BIM team".</p>	<p><b>4</b></p> <p>European Commission (EC), Standardization organisations (ISO, CEN), public clients' top management</p>
<p><b>5</b> Resistance to change</p> <p>Resistance to change is a natural human behaviour. <b>Digital transformation brings enormous change</b>, causing personal fear of losing position, influence, and value.</p>	<p><b>Long-term change management applications</b> can deal with it, including communication of personal benefits for all positions in the organization. It should mainly focus on elderly people who have been in the organization for a long time.</p>	<p><b>5</b></p> <p>public clients top management, BIM team in the organisation, training lecturers</p>

BOTTLENECK	SUGGESTIONS	ACTORS
<p><b>6</b> Missing - knowledge and/or trust</p> <p>Trust and people's involvement are essential for each successful change. To ensure that we need a <b>change management process</b> running. Both can be related to the motto: "A named and known devil loses power."</p>	<p>Practical, comprehensible and repeated training. Top and mid-management roles are very important to build confidence that we are going in the right direction to secure our own personal perspective in the organization. Furthermore, realistic benefits and lessons to learn from the pilot projects increase trust.</p>	<p><b>6</b></p> <p>public clients top and mid-management, BIM team in the organisation, training lecturers</p>
<p><b>7</b> Communication between actors</p> <p><b>Transparently published strategies</b> can deliver a clear message about the <b>changes</b> and <b>new requirements</b> to the whole supply chain, including software vendors.</p>	<p><b>Well-prepared, updated and transparently published organizational standards based on international/national standards/requirements</b> are fundamental for fair and supportive cooperation with all supply chains. This will simplify the validation of deliverables by machine checks for both sides bringing efficiency, transparency and trust to the handover process.</p>	<p><b>7</b></p> <p>public clients' top and mid-management BIM team in the organisation PR department</p>
<p><b>8</b> Integration from project to asset management (PIM/AIM)</p> <p><b>Building organisation strategy</b> gives the floor for asset and facility management to put their <b>information requirements</b> based on their purposes to <b>early-stage project information models</b> (PIM). This allows smoother and lossless handover to the operating phase in the future.</p>	<p>Asset and facility managers must be members of the internal BIM team preparing GAP analysis from the beginning and during the implementation and pilot projects. Moreover, AM/FM must implement in parallel their own CDE solution to manage asset information models (AIM). Implementing both connected CDEs makes it possible to create a complete digital archive.</p>	<p><b>8</b></p> <p>BIM team in the organisation, ITC department</p>
<p><b>9</b> Soft skills in management</p> <p><b>BIM implementation</b> is a profound change and needs to be supported by <b>well-skilled empathy managers</b> at all levels, cooperating and speaking one voice: the ability to know when and where to push, and vice versa to be polite. The skills to communicate change and defend it factually and convincingly are just basic skills that need to be deepened and trained.</p>	<p><b>Invest in the education and training of soft skills</b> for all levels of management. This training must be part of the organisation's strategy to secure funding and put it in action plans.</p>	<p><b>9</b></p> <p>public clients top and mid-management</p>
<p><b>10</b> Less is more - Don't be greedy</p> <p>Finding the <b>right balance between non-realistic expectations/plans</b> and <b>endless stomping in place</b> is a crucial skill for the management. In the data dictionary, reasonably defined information requirements (EIR) are based on the "level of information needed" principle and for other domains, honest and transparent GAP analysis is essential.</p>	<p>All factors must be in the SWOT analysis and could be solved only by a <b>well-reviewed organisational strategy to avoid blind ways and frustration from unreal expectations</b>. Pilot projects with structured feedback are essential to update and improve EIR.</p>	<p><b>10</b></p> <p>BIM team in the organisation</p>

## WORKSHOP III

# PRACTICAL IMPLEMENTATION AND STRATEGY CONCLUSIONS

1

There are different approaches to BIM implementation focusing on:

- **strategy development and agile planning and implementation;**
- **practical implementation and pilot projects** ("learning by doing").

Each approach has its pros and cons, but in any case, it is essential to constantly define and monitor achievable results and strategic goals as part of the BIM implementation process. We found a strategic approach more reasonable with less risk of failure and smoother implementation to the whole organisation, avoiding the department/team "quick" silo solutions.

2

**Organization BIM strategy** must have two fundamentals:

- **GAP analysis,**
- **long-term implemented change management** into an action plan.

GAP must contain:

- an honest, complete mapping and evaluated AS-IS situations,
- well-designed forward-thinking TO-BE state,
- and doable, realistic action plans (short, mid and long-term) with sophisticated systematic feedback for correcting standards, guidance and procedures.

3

Running agile action plans based on realistic GAP analysis in the whole organisation process allows smoother and lossless data sharing. It also helps to transfer information and data through different departments and processes. This approach will bring the **long-term architecture for organization-specific CDE**, containing new or updated systems and software tools from the market for future ITC investments. Connecting it all together brings efficiency and avoids double work and information overlaps (with different content). The routine use of CDE will bring transparent responsibility to all external actors and allow decision-makers to get higher self-confidence and efficiency for all the employees involved.

4

The well-implemented strategy facilitates the smart application of international standards and the creation of organisational information **requirements based on clearly defined purposes** at each department/process. This makes it possible to achieve minimum requirements and avoid overlaps in the supply chain. Organisational standards based on international standards principles bring efficiency in the representation of various positions, as well as transitions between departments, training and the introduction of new employees.

5

The ongoing digital continuity must be supported by **repeated training** for employees to upskill their knowledge and the routine usage of digital tools for daily work. This approach enables people involved to make better decisions based on trustworthy, valid and connected information.