

Building Information Modelling BIM

The road to an SME-friendly implementation in Europe

Established in 1990, the European Builders Confederation - EBC - is a European professional organisation representing national associations of micro, small and medium-sized enterprises working in the construction sector.

The construction sector is of vital importance to the European economy. With 3 million enterprises, an annual turnover of around € 1,600 billion and a total direct workforce of 13 million, the construction sector contributes at around 10% to the GDP of the European Union.

99.9% of the European construction sector is composed of small and medium-sized companies, which produce 80% of the construction industry's output. Small enterprises (less than 50 employees) are responsible for 60% of the production and employ 70% of the sector's working population.

General comments

The introduction of BIM is seen and widely recognised as a **solution to the management of information** during the design, construction and operational phases of the asset lifecycle of a building. BIM allows any aspect of a design's performance to be simulated and assessed before it is built, making the understanding of the design easier and more complete. It is not simply the use of 3D software, but **it is a process** that facilitates the sharing of information among all the professionals involved throughout the whole construction project.

With **92% of the EU construction sector made up of micro enterprises**, responsible for 80% of the construction industry output, it is imperative that these players are not left behind in the definition and in reaping the benefits of this digitised information management process. EBC acknowledges that the development of BIM is advancing rapidly and highlights concrete and specific needs for its favourable implementation in Europe:

- Addressing the needs and expectations of micro, small and medium-sized enterprises in how to design a **European standardised approach** to BIM
- Promoting the adoption of BIM to facilitate **higher energy efficiency** and **lower life-cycle costs** of buildings
- Promoting **BIM training programmes** that are not based on the use of a specific software, but are rather targeted to guide all construction professionals towards the digital transition of the construction sector
- Ensuring the **soft-landing of public procurements changes** with regard to the transition from traditional methods to BIM-based ones

Specific comments and recommendations

In light of the general context and of the overall objective, EBC puts forward certain concrete and specific remarks that will drive EBC's work in the field of BIM:

1. Provide a different picture with regard to the use of BIM tools

The use of digital models is usually associated to construction works of exceptional nature. However, it is by showing that the use of these tools can be extended also to “traditional” buildings and **renovation works** that SMEs will get an interest and start to concretely step towards this innovative process.

2. Ensure a soft transition from traditional public procurement methods to BIM-based ones

The aim of the European Public Procurement Directive n. 24/2014 (EU) is to modernise the existing EU **public procurement rules** by promoting the use of BIM and electronic communication, minimising red tape and enabling easier access for SMEs. However, it is necessary to ensure the soft-landing of public procurements changes with regard to the transition from traditional methods to BIM-based ones. The newly created EU BIM Task Group plays a fundamental role in bringing together national efforts to pave the way for the gradual transition towards BIM-based public procurement methods.

3. Integrate SME representation in the EU BIM Task Group

EBC asks the European Commission to be integrated in the EU BIM Task Group to promote the interests of the building sector's micro, small and medium-sized entrepreneurs. **SME representation** in this group is of great importance to define a common and aligned European approach focusing on procurement measures, technical considerations, cultural and skills development.

4. Develop BIM tools that can be adapted to the building renovation market

The image of the digital model tools is often associated with new buildings. A widespread use of digital model tools can only take place if these can be applicable to existing buildings, which constitute the main business segment of micro and small enterprises in construction.

5. Promote the adoption of BIM to facilitate higher energy efficiency and lower life-cycle costs of buildings

BIM-based solutions have a great potential in the analysis of **energy efficiency** and **lower life-cycle costs** of buildings. These need to be further promoted to reduce the energy consumption in the construction sector and reduce its environmental impact.

6. Ensure SME representation in the standardisation process of BIM

EBC provides an expert nominated by SBS – Small Business Standards - in **CEN Technical Committee (TC) 442**. EBC and SBS involvement in this TC is mainly oriented to avoid the development of standards only applicable by a small part of the market or driven by the commercial interests of a limited number of players. Moreover, EBC and SBS stress on the needs and expectations of micro, small and medium-sized enterprises in how to design a **European standardised approach** to BIM.

7. Develop well-designed and economically accessible digital model tools for construction SMEs

The digital model tools are often too complex and do not reflect the needs of small construction enterprises. A successful spreading of the use of digital models is strictly connected to **simplification of existing tools** and **training of final users**. The costs of digital model tools should be bearable for craft enterprises, both in terms of the price itself of the tool and in terms of training.

8. Ensure that the use of digital model tools will not constitute ground for exclusion of micro-enterprises/SMEs and will not be prescriptive for particular products

Some construction companies are also manufacturers of products that they install, notably in the wood, metal or even stone industry. A key to the development of digital model tools lies in the availability of **digitally formatted products' characteristics and performances** that are compatible with the electronic Declaration of Performance and CE marking under the Construction Product Regulation n. 305/2011 (EU). The cost of such "digitisation" of products must be bearable by SMEs, which otherwise risk to be excluded by this process.

It is essential that the **digital model tools will not be prescriptive** in terms of commercial provisions. The choice must be left to users to select and offer different products by different manufacturers depending on market needs. The digital model tools could well give an idea about equivalent products and/or the equivalence of performance of different products.

9. Avoid the definition and introduction of the role of BIM manager as sole responsible for the management of BIM projects

It is uncontested that BIM, as an integrated digital process, requires specific expertise and competences to ensure reliable coordination and information exchanges about a project throughout all construction phases. However, EBC is convinced that such expertise and competences shall be created (through training activities) within the recognised players of the construction process, without the creation of a new and additional profession of **BIM manager**. Indeed, the definition of this additional figure would create a wedge between clients, architects, contractors and could result in unwanted effects such as increase in costs in the building process.

10. Provide BIM trainings to construction workers and entrepreneurs in response to industry needs

It is necessary to provide construction professionals with BIM trainings in response to the changing needs of the construction industry not otherwise able to be met. However, **BIM training programmes** should not be only limited to the use of specific software, but rather targeted to guide the relevant players towards the digital transition of the construction sector.

11. Investigate about the position of insurance providers with regard to the use of digital model tools

The use of digital model tools might reflect a significant change in relation to **sharing of responsibilities**. It is essential to focus the attention of all stakeholders in the construction sector to identify the consequences of such changes in terms of responsibilities and guarantees.