

BIM-based EU-wide Standardized Qualification Framework for achieving Energy Efficiency Training

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A Summary
EDDIE Consortium

Funded by the European Union's Horizon 2020 research and innovation programme, the BIMEET project addresses the challenges faced by the European construction sector in an increasingly digitized environment. The objectives of the project were to identify skills and training needs, as well as provide training to construction professionals and workers in order to prepare the market to adopt Building Information Modeling (BIM). As a result, a training portal was developed, which provides training opportunities and acts as a repository source for information on BIM and energy efficiency. The programme fell into the wider context of meeting European energy and carbon reduction targets.

Background and problem Statement

The European Construction sector is facing unprecedented CHALLENGES TO ACHIEVE ITS AMBITIOUS ENERGY EFFICIENCY OBJECTIVES, in a context dominated by reduced investments, search for cost effectiveness and high productivity. Moreover, the industry is experiencing its DIGITAL REVOLUTION, with Building Information Modelling (BIM) approach gaining significant interest across Europe. As importantly, member states implement very different approaches through regulations and maturity targets, which always face the traditional low-tech and informal practices of construction businesses.

In an effort to tackle the aforementioned challenges, a consortium consisting of research, educational, accreditation, labelling and training bodies was formed and collaborated over the course of 4 years, in order to produce the following two major outputs:

1. A skills matrix related to BIM and energy efficiency
2. A training platform to contribute to the dissemination of the BIMEET European qualification framework (EQF)

Overall, through its actions the project aimed to:

1. Pave the way to a fundamental step change in delivering systematic, measurable and effective energy efficient buildings through BIM training with a view to effectively address European energy and carbon reduction targets.
2. Promote a well-trained world leading generation of decision makers, practitioners, and blue collars in BIM for energy efficiency.
3. Establish a world-leading platform for BIM for energy efficiency training nurtured by an established community of interest.

Followed Methodology

Initial research focused on gathering evidence concerning the use of BIM for energy efficiency through literature review, case studies and interviews, thus enabling the definition of the requirements for BIM and energy efficiency and the training gaps.

The following stage involved the benchmarking of existing EU-wide (BIM) training across the building value chain, thus enabling the identification of qualification targets, delivery channels, skills and accreditation mechanisms whilst highlighting training gaps and enhancement potential.



Next on the programme came the analysis of BIM qualification and skills frameworks across Europe, focusing on setting up a global consensus and mutual recognition scheme of qualifications and certifications. These initiatives triggered the delivery of e-learning training schemes at the end of the project, while BIMEET consortium also developed two e-learning courses:

1. The BIM for energy efficiency of buildings, &
2. The BIM for energy performance certificate

Following, an advanced BIMEET platform was developed, composing of both the community web-based portal and the tangible application. The BIMEET application is an interactive map, relying on a natural user interface to explore data about the potential target audience for a given area and the available trainings in the same region. The general idea was to provide training institutions with information required for identifying market needs and consequently improving the consistency of the training offer.

In the final stages of the project, the labelling scheme was established and tested by professional training providers. Ongoing discussions within the consortium are examining the prospect of expanding this label to EU level, hence capacitating its sustainability. To ensure long-term sustainability, the consortium established a governance, policy and regulatory framework as well as adapted business models. As for the Dissemination and Communication activities, the BIMEET project partners have either participated or run five workshops, where they provided valuable insights, common understanding and feedback for the project's results.

By learning new skills and competences on BIM and Environmental Education processes with related tools, professionals can take advantage of the benefits offered by integrating building information management in a building or renovation project. An estimation of the energy related impact of the BIMEET project is monitored with the aid of two performance indicators: a) Saving of primary energy through energy renovations and b) the increasing use of renewable energy sources in energy renovation projects, taking participants of BIM-EE-trainings as starting point.

Overall, BIMEET project partners have developed technologies providing service for trainings and competence development in the area of BIM enabled energy management. [Energy-BIM.com](http://www.bimeet.eu) community portal, BIMEET training repository and the tangible table enabling the development of new courses are key technological results contributing to pushing BIM and Energy Efficiency training closer to the market.

Additional Resources

For more detailed information, check out [http:// www.bimeet.eu](http://www.bimeet.eu).