



**Education for zero
energy Buildings using
Building Information
Modelling**

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Learning Unit 12



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BIM IN FACILITY MANAGEMENT SOFTWARE (CMMS)

EQF	6-7	Target	Facility manager Project manager Consultant Designer Specialist in green building
Description			

The following learning unit focuses on the object classification, data structure and model generation in order to create a correct BIM model for facility management systems. This unit will focus on standards like COBie and best practices documents.

A facility management software (CMMS) with the support of a BIM model is essential to speed up urgent interventions and to communicate issues to other agents detailing placement and situation in the building.

Objectives

- Structure model data for a correct facility management implementation with BIM.
- Classify BIM objects, spaces and other BIM parameters to be compatible with facility management software.
- Generate a model considering maintenance parameters.

Generic competence

- Develop advanced knowledge in BIM modelling.
- Spatial vision skills and knowledge of graphic representation techniques through computer-aided design applications.
- Knowledge of the design, analysis and construction of building works.
- Illustrate Resilience to accept adverse situations objectively and interpret problems to offer a solution.
- Advanced skills and good practices in the realization of nZEB buildings.
- Advanced skills evaluating the influence of each parameter on the energy demand of the building.
- Motivation for quality and improvement.



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- Ethical commitment and environment sensitivity.

Specific competence

- Linking asset data to the model for facility management.
- Collect, manage and disseminate documentation, graphical models and non-graphical data for the whole facility team in a Common Data Environment (CDE)
- Establish the information framework required to assist communication and collaboration from Construction – Operation for asset management.
- Establish the coordination framework required from Construction – Operation by using data inputs and model structure to organise modelling elements efficiently.
- Understand the impact of BIM to Asset and Facilities Management and how this transforms interaction within the project.
- Understand effects software has to workflows and what mapping needs to occur to ensure project coordination and collaboration.
- Build a model of new or existing building for hand over with a common data environment for the operation and maintenance of the facility or asset.
- Ensure optimal use of different energy production systems
- Instruct the facility manager on running and maintaining the buildings energy performance
- Ensure optimal maintenance of materials and technologies
- Instruct users and facility managers on energy performance of the building
- Monitor building performance

Recommended learning methodology

Methodology

The recommended methodology for the course would be Gamification, is based on the application of elements of games (non-playful context), in order to influence the behaviour of people from the stimulation of their motivation.



In addition, another recommended methodology would be Design Thinking. A methodology that considers innovation as a holistic approach, where students through technology and their own interests or training needs converge through an action plan designed by themselves. It is based on finding the most original solution to a real problem given by the teacher, and for which the students will have to analyse the situation, establish hypotheses, and foresee possible impacts of the action.

Method

The recommended methods will be based on individual work and the adaptation to Self-learning.

Recommended assessment methodology

The recommended assessment methodology would be the resolution of practical cases and the realization of tests destined to evaluate the knowledge.
