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CHALLENGES FOR THE THIRD MILLENNIUM

Introducing BIM into Education: Opportunities and Challenges

Meléndez Carlos*, Pereiro-Barceló Javier[†],

*CYPE Ingenieros S.A.
Eusebio Sempere Avenue, 5 - 03003 Alicante, Spain
imasd@cype.com

[†]CYPE Ingenieros S.A.
Eusebio Sempere Avenue, 5 - 03003 Alicante, Spain
javier.pereiro@cype.com

ABSTRACT

Digital transformation is altering the way architecture, engineering and construction (AEC) professionals worked traditionally. BIM (Building Information Modelling) technology is at the centre of this transformation, connecting design, construction, management and operation of buildings. Its advantages versus previous practice are many and benefits owners, designers and contractors. Demand of BIM projects is growing significantly and is expected to increase faster in the near future while the industry improves the standards and available tools are developed further. Education in Civil Engineering must acknowledge these changes and include BIM in the core of its contents to prepare future practitioners.

The introduction of BIM philosophy in education presents advantages not only for future professional practice, but also for current students. This article will cover the opportunities and challenges of BIM introduction into education: (1) It helps students get familiar with the use of computer-based tools, which are critical in current practice. (2) It speeds the learning curve of engineering concepts with the application of user-friendly computer tools which cover a wide spectrum of problems. (3) It permits focusing on specific aspects of design, construction or management separately without having to learn very advanced computer tools whose scope exceeds the students' needs. BIM software packages are usually oriented to solve a specific problem as this facilitates the division of tasks between members (e.g. for structural design: tools for design of foundations, of retaining walls, of columns, of beams). (4) It highlights the importance of cooperation between team components and, hence, fosters the development of soft skills, which are becoming more important in the digital era.