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TITLE OF DIPLOMA THESIS:

Building Information Modeling:
Description, Potentials and Prospects for the Construction Industry

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ABSTRACT

New trends in the building design seek to take fool advantage of the Integrated Design Process (I.D.P.), which is inextricable linked to the sustainable construction and development. The subject of the present diploma thesis is the presentation of the Building Information Modeling (B.I.M.) as a tool for project management and costing (Bill of Quantities, B.O.Q.) with the use of the program Revit from Autodesk. The B.I.M. methodology, which is involved at all stages of the life cycle of a building, is growing rapidly and associated with the technological development of computer science, project management and other areas of the construction industry. B.I.M. is a digital representation of the physical and functional characteristics of a structure and is considered to be a shared knowledge resource for all the stakeholders of a project. The automatic update of the database related to any change of the manufacture process brings savings in costs and time for all the stakeholders (such as designers and owners) and makes the existing software very reliable for the project managers. This dissertation reflects all the above information, putting emphasis on major issues of the construction industry and concludes with an assignment (case study) related to a process by which we find out the quantification of the materials and the components of a building. The sizing of a the building components such as doors, windows and walls is considered. Furthermore this case study identifies the differences between the automatic and the manual measurement, which can cause serious divergences in large - scale prolects.

KEYWORDS

Integrated Design Process (I.D.P.), Building Information Modeling (B.I.M.), Project Management, material quantification, construction industry.