

- 17017 | Information management in heritage projects using BIM - Inspection, diagnosis and experimental tests

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During the last decade, the rehabilitation of old buildings has received more attention due to their heritage and social values. Besides the growth of importance in rehabilitation of existing buildings, the construction sector has been changing the way information is managed in its processes by incorporating Building Information Modelling (BIM). Despite the popularity of this technology, there is a lack of documentation covering the implementation of BIM in the rehabilitation projects compared to new buildings, even though it is believed that the benefits of BIM will have a greater impact at the end of the building lifecycle. In this paper, BIM is incorporated as an information management tool to support the rehabilitation project of old buildings, a work developed with the company NCREP - Consultancy and Rehabilitation of Built Heritage, Ltd. The data from the tests carried out in the buildings during inspection and diagnosis actions is previously standardized, stored and exchanged in different applications in order to be represented in a modern model. This model is used to document anomalies and defects in existing buildings, as well as systematizing the collection and storage of information in a damage map of the building. Significant benefits result from the implementation of this methodology at the initial phase of Rehabilitation projects, in particular of the Inspection and Diagnostic actions. For instance, it improves the organization of the information attached to the model, whilst the damage extension in the building can be measured with the results of tests performed. Furthermore, the advantages of applying the methodology are not limited to the initial phase of the project. Indeed, additional benefits can be expected in the later phases, namely when managing and monitoring the state of conservation of the buildings after the rehabilitation works have been performed, as well as supporting building maintenance during the operations stage.