

## USING AUGMENTED REALITY IN DIFFERENT BIM WORKFLOWS

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### **Abstract**

As all phases of the project are incorporated into the Building Information Modeling platform (BIM), which provides a model containing all the data and information that occur during the life cycle of a structure: from the design and planning phase, through the construction phase, to the operation and maintenance phase. As the tools used on this platform advance technologically, the architecture, engineering and construction (AEC) industry is increasingly seeking the cost-effective benefits of investing in technology. By providing the user with an immersive view of the environment and enabling integration between the virtual and natural environments, augmented reality (AR) is becoming an indispensable technology in design and data modeling workflows. In this context, the research aims to report and evaluate the potential and challenges of using augmented reality in a broad approach within the life cycle of a project in BIM and through three case studies in different construction scenarios. Two case studies are an infrastructure projects with uneven depth in data and information modeling provided by three-dimensional models in BIM. The last case study is a office building fully executed in 3D model BIM. The master thesis provides a review the contexts of each case study projects, reporting on the benefits and challenges of the applicability of the software with appropriate tools for real time interaction between AR and BIM through a mobile device, and analyzing the results obtained.

**Dissertation:**

<https://bimaplus.org/wp-content/uploads/2021/10/2021-AngelaSilva-Dissertation.pdf>

**Presentation video:**

<https://youtu.be/IVCygZr8kg4>

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