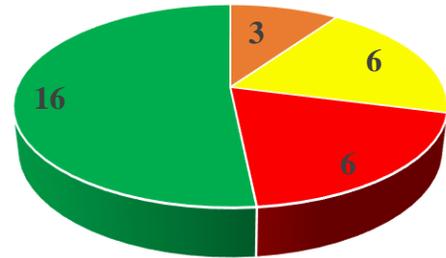


Increasing Health and Safety Through the Utilization of 4D Modeling

By Rogan Wells

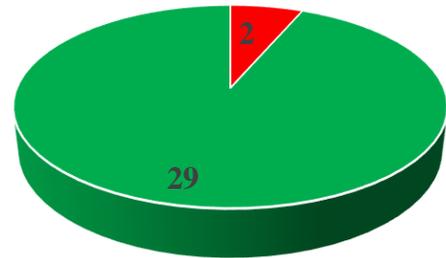
Abstract

Health and safety is one of the most important aspects of the construction industry. Every year there are thousands of work-related injuries in the construction industry. Avoiding these injuries is of the utmost importance on a jobsite. This paper will analyze how building information modeling, specifically the use of 4D building information modeling, can be utilized to increase the overall health and safety of construction jobsite. An exploratory survey was conducted amongst architecture, engineering, and construction industry professionals who hold a wide range of experience. The aim of this survey was to analyze their knowledge and experiences using building information modeling, especially 4D building information modeling, in conjunction with health and safety..



■ 1-3 yrs ■ 4-7 yrs ■ 7-10 yrs ■ 10+ yrs

How long have you worked in the Architecture, Engineering, and Construction (AEC) industry?



■ Yes ■ No

Have you used 4D modeling to improve the health and safety of a project at any point throughout the construction process?

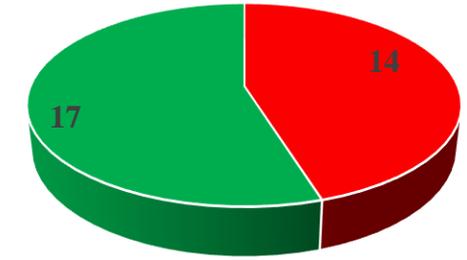
Key Words: Building Information Modeling, Health, Safety, 4D Modeling

Dimension	Description
3D	Most familiar form. The process of gathering graphical and non-graphical information to build 3D models and sharing this information in a Common Data Environment (CDE).
4D	Brings time information into BIM to create a create an even richer source of information.
5D	Brings costs information to BIM, allowing the user to extract accurate cost data from a model, and see cost changes over time.
6D	Focuses on the sustainability of an asset, some data included may be maintenance schedules, configuration of the component for optimum performance, expected lifespan, etc.
7D	Extracts and tracks relevant asset data such as component status, specifications, maintenance manuals, warranty data, etc.

Dimensions of Building Information Modeling

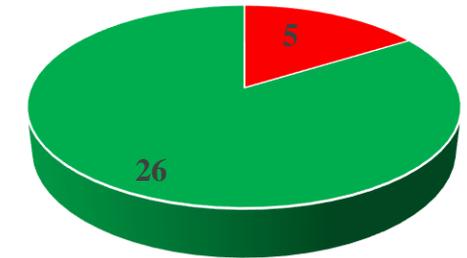
Conclusion

It would be best to use 4D BIM to enhance site logistics. The biggest take always are the importance communication, scheduling, and visualization when improving and maintain the health and safety of a jobsite.



■ Yes ■ No

Have you used Building Information Modeling (BIM) to improve the health and safety of a project at any point throughout the construction process?



■ Yes ■ No

Have you used BIM or 4D modeling in conjunction with health and safety?

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