Implementation of ISO19650 based framework for asset management in logistics centres for a major food retailer

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Abstract

In recent times, the relevance of information has grown in prominence with roles involving data or information management taking centre stage. For the AECO (Architecture, Engineering, Construction and Operations) industry BIM represents data (geometric and non-geometric). The data from construction has been put to little or no use in the operation and maintenance stage. Based on this proposition it is of great value to investigate BIM-asset management integration.

This research approaches the subject by carrying out structured research into the past and present use of BIM methodology in asset management. It also highlights issues around ISO-19650 implementation for the operations and maintenance industry, by developing a framework that promotes the creation of relevant ISO 19650 information requirements documents (OIR, AIR and EIR) and level of information need. The literature review reveals that there is a lack of case study implementations in the area of BIM-asset management. Asset managers generally require verifiable data from case studies to convince building owners and investors to adopt BIM. By defining the information requirements for operation and

maintenance using the data collected from the case study, this dissertation has contributed to increased knowledge in BIM- asset management implementation.

Since BIM- asset management integration is still new in the operations and maintenance areas, there is little verifiable research on this topic. To understand the status of BIM implementation in the operations and maintenance fields, the author systematically studied the logistics operations asset management process of the largest food and consumer goods company in Portugal, Sonae MC. The objective of this research is to create a framework for the implementation of an ISO 19650 compliant BIM based asset management system, for the case study in which such system will be applicable for a chosen existing facility. This dissertation also aims to use BIM visualization capabilities to provide the asset management team with tools containing both geometric and other asset relevant information and that will allow for improved maintenance planning, better problem solving and faster reactive maintenance response times.

As a part of the ISO 19650 implementation process, this dissertation explored subjects on modelling for asset management purposes, importing and exporting COBie data in a Computerized Maintenance Management Systems (CMMS) IBM Maximo. Alongside COBie data integration, a BIM viewer plugin (Autodesk Forge) was installed within Maximo asset management environment. This implementation process allowed the reengineering of the asset management system in Sonae MC, namely simplifying the existing workflow, saving time spent uploading individual asset information and improving the overall information storage and management process.

Dissertation:

Link for full text

Presentation video:

`https://youtu.be/cu-SIe9x0RY`

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