# Data-driven asset management

**Project 10**

## A framework for linking ISO and BIM standards for whole-life value

**Benefit to**
Asset Managers

**Impact and value**
- through-life management of assets
- better information for better decisions
- cost saving, time saving

The UK construction industry has been mandated to improve the design, delivery and maintenance of assets through the delivery of digital information. The focus of this research is how the advancement in technology within the construction industry, most notably Building Information Modelling (BIM) and Geographic Information Systems (GIS), can aid asset managers. The aim is to identify, for a given asset type, the information required for through-life management, and how to utilise such information within the BIM model.

BIM is the strategic approach to use information technology to create and manage information related to built assets during their entire life cycle. BIM is being implemented for design and construction, but its use for asset management and maintenance is only just beginning to be considered. Design data and asset information which would enable efficient management of built assets, although available, is not currently passed on to asset managers in a way that can be easily utilised.

This research, in partnership with Costain, will progress the use of BIM as the cornerstone of information management for asset maintenance and management (BIM levels 3 and 4). For a given asset type, the information required for through-life management and a method to link this to the BIM model to provide a fully integrated asset management platform will be identified.

The aim is to create a model-based framework approach to aid in the development of whole-life asset information requirements (AIR) linking the BIM 1192 standards with the ISO 55000 standards (Figure 1). A tool will be built that can automatically link AIR to Uniclass 2015 – a unified classification system for the construction industry. Uniclass 15 contains consistent tables classifying items of all scale from a facility such as a railway through to products such as a CCTV camera in a railway station. The asset information model will be validated for the organisation information requirements and objectives.

As the world of BIM L3 (Digital Built Britain) and UK Digital Economy beckons, there will be a strong focus of data-driven construction solutions. This research will set the foundations for the connected construction site and lead to future digital business models and developments around Internet of Things and the smart cities agenda.

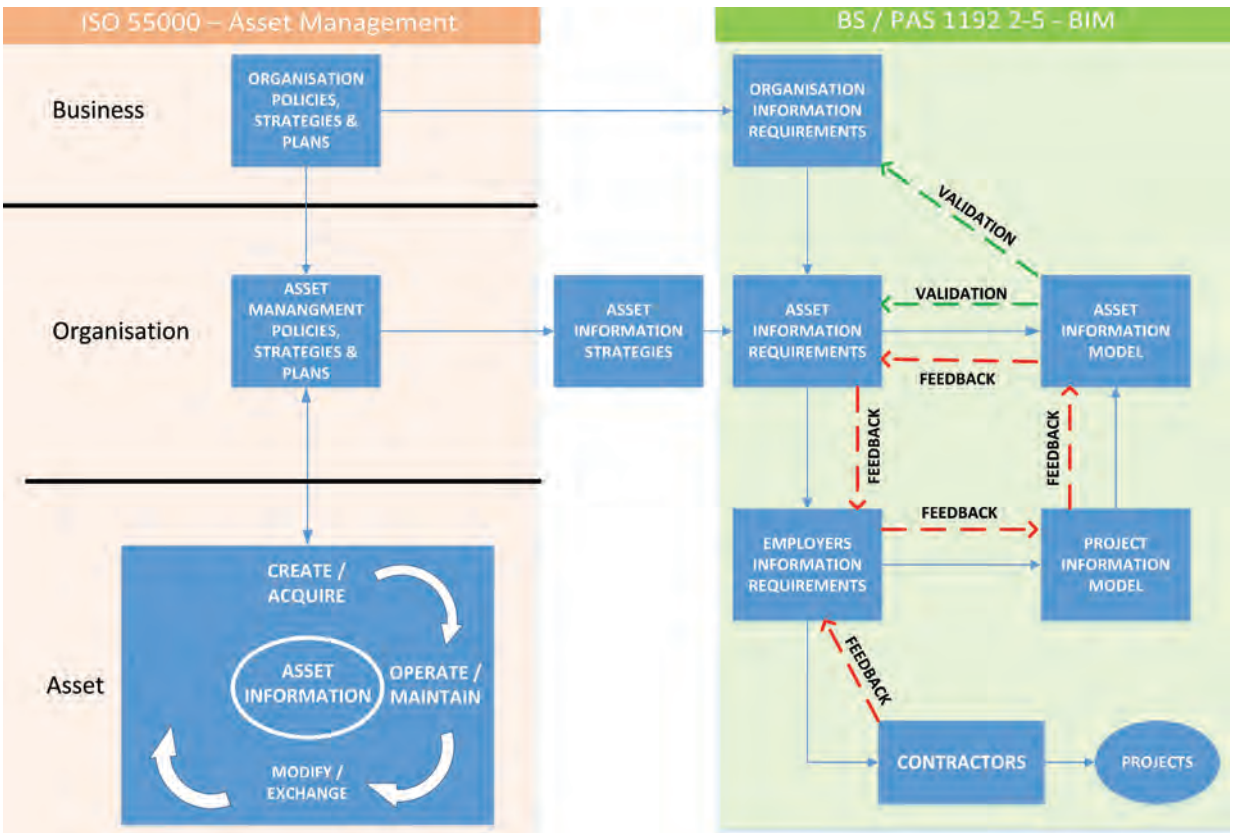


**Figure 1. Asset Information Requirements – the alignment between the ISO 55000 standards and the BIM 1192 standards**


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