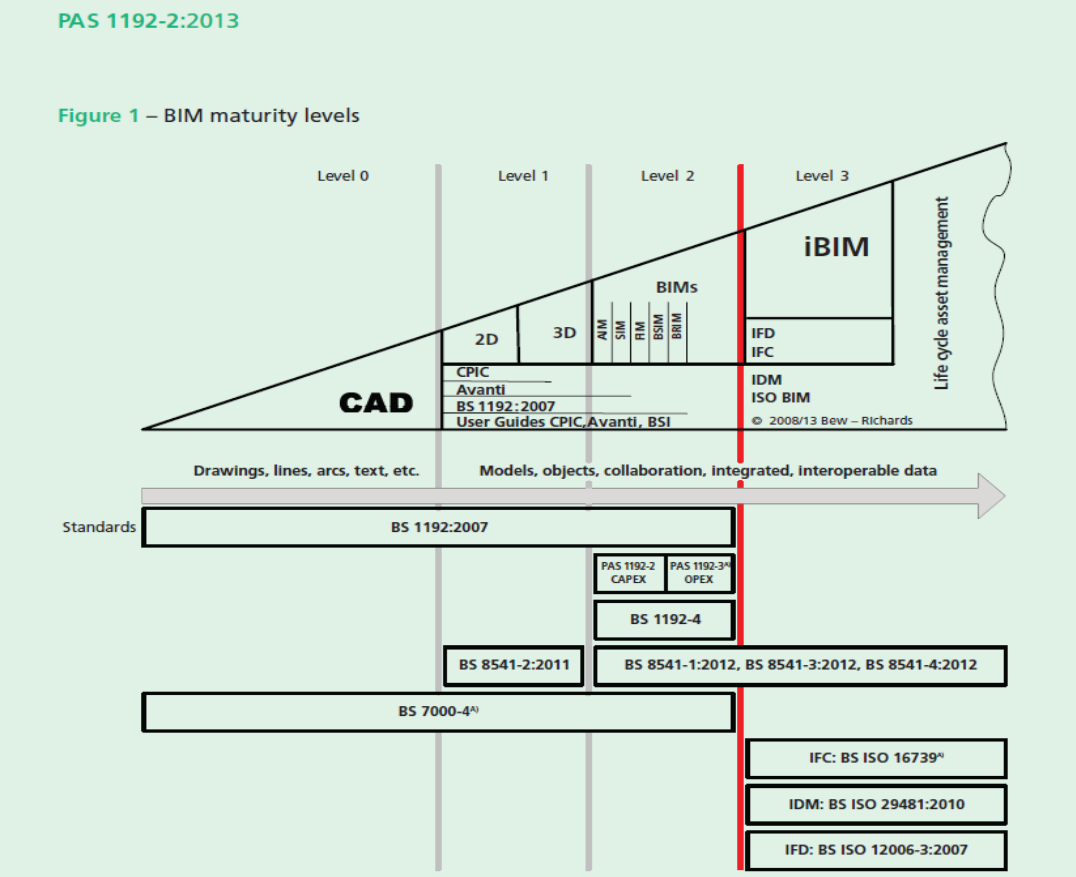
PAS 1192-2 in Brief

In May 2011, the UK Government published the Construction Strategy aimed at reducing the cost of public sector assets by up to 20% by 2016. The strategy calls “for a profound change in the relationship between public authorities and the construction industry to ensure the Government consistently gets a good deal and the country gets the social and economic infrastructure it needs for the long-term”.

This Publically Available Specification (PAS) specifies requirements for achieving building information modelling (BIM) Level 2. The requirements within this PAS build on the existing code of practice for the collaborative production of architectural, engineering and construction information, defined within BS 1192:2007. PAS 1192-2 focuses specifically on project delivery, where the majority of graphical data, non-graphical data and documents, known collectively as the project information model (PIM), are accumulated from design and construction activities.

Information requirements shall be specific, measureable, achievable, realistic and time-bound against, for defined project stages and information exchanges.



PAS 1192-2 also itemises the documentation required giving clear guidelines for its content and structure, these documents are listed below.

Employers Information Requirements (EIR)

Employers Information Requirements are produced as part of a wider set of documentation for use during project procurement and shall typically be issued as part of the employer's requirements or tender documentation. The development of the EIR shall start either with the assessment of an existing asset, leading to the development of the employer's need, or directly with the employer's need if no existing asset or asset information model is to be considered.
Irrespective of which starting point is used in the information delivery cycle, the steps in the cycle shall be applied separately to the procurement and engagement of each tier 1 supplier required for the project as a whole.

Pre-contract BIM execution plan (BEP)

The contents of the pre-contract BEP shall consist of everything requested in the EIR plus the following information:
a) The project implementation plan (PIP) The PIP is one of the documents used by an employer to assess the capability, competence and experience of potential suppliers bidding for a project, along with quality documentation.
b) project goals for collaboration and information modelling;
c) major project milestones consistent with the project programme; and
d) project information model (PIM) deliverable strategy (for example the CIC Schedule).

The PIP shall include the supply chain capability summary form, it includes
a) the supplier building information management assessment form(s)
b) the supplier information technology assessment form(s)
c) the supplier resource assessment form(s).

Post contract award BIM execution plan (BEP)
The contents of the post contract-award BEP shall consist of everything requested in the EIR plus the following information:

a) management:
    1) roles, responsibilities and authorities;
    2) major project milestones consistent with the project programme;
    3) project information model deliverable strategy (for example the CIC Schedules);
    4) survey strategy including the use of point clouds, light detecting and ranging (LIDAR) or global navigation satellite systems (GNSS);
    5) existing legacy data use;
    6) approval of information; and
    7) PIM authorization process;

b) planning and documentation:
1) revised PIP confirming the capability of the supply chain;
2) agreed project processes for collaboration and information modelling;
3) agreed matrix of responsibilities across the supply chain;
4) TIDP (task information delivery plan)
5) MIDP (master information delivery plan)

c) Standard method and procedure:
1) the volume strategy;
2) PIM origin and orientation (which may also be geo-references to the earth's surface using a specified projection);
3) file naming convention;
4) layer naming convention, where used;
5) agreed construction tolerances for all disciplines;
6) drawing sheet templates;
7) annotation, dimensions, abbreviations and symbols; and
8) attribute data (COBIE data)

d) IT solutions:
1) software versions;
2) exchange formats;
3) process and data management systems.

Project Information Model

The PIM shall be progressively developed and delivered to the employer through a series of information exchanges as defined within, for example, the Construction Industry Council Scope of Services, at key points to coincide with the employer's decision-making processes as defined by the EIRs and the CIC BIM Protocol (2013). The PIM shall consist of graphical data and non-graphical data documents as defined in the MIDP. Data delivery shall include some all of the following data entities: native (product-proprietary) file formats, COBie-UK-2012 and read-only PDF; to enable a complete Level 2 project.

Common data environment (CDE)

The process of creation, sharing and issuing of production information shall be consistent so that information is managed and delivered in a lean and timely manner. The CDE shall be used to enable this process.

Levels of model definition

The minimum level of detail needed by the team or the employer for each model's purpose shall be defined. The level of model definition required in a model at an information exchange shall be defined in the EIR and the CIC BIM Protocol (2013). The level of graphical information and data to be delivered at each information exchange will be defined with reference to industry standards.

Classification
Models, documents, project information, cost information and specifications shall all be organized using a classification system to allow external processes such as cost planning to take place.

The final part of the specification itemises the handover procedure of the project to the client

Asset information model (AIM maintenance)
The effective transfer of structured information between the asset lifecycle stages delivers significant value. To effectively enable this, formal handover processes shall be documented in the EIR. The document shall define the structure, process and content of information to be exchanged. This document shall form the basis for the operational contract documentation. In addition, appropriate surveys such as point cloud or LiDAR shall be provided to verify the completeness of the as-constructed model.
Guidance on the use and maintenance of the AIM is to be documented in PAS 1192-3.