BIM Learning Outcomes Framework

The BIM Learning Outcomes Framework (LOF) provides consistent information on Level 2 BIM to institutions, academia, training providers and private educators developing and delivering training courses to professionals in the sector. This helps to build capacity development in the industry.

Audience

The Learning Outcomes Framework is a useful reference for anyone with an interest in Level 2 BIM and is specifically aimed at the following:

- Public and private construction clients
- Professional Institutions
- Professional Training & Certification Providers
- Higher and Further Education Providers
- Technology vendors and service providers

Uses

The 2015 version of the Learning Outcomes Framework enables:

- The consistent development of academic education and professional training courses with associated assessment tools
- The specification and evaluation of BIM Level 2 capability by procurers
- The development of formal accreditation and certification solutions
- The education of the next-generation of industry professionals
- The alignment of BIM skills with Institutional development and membership criteria

The LOF does not provide training or course content. It identifies the subject areas that should be considered for a common level of performance at Level 2 BIM. The depth and breadth of the course objectives are dependent on the course or education level being taught. The manner in which they are delivered will be dependent on the facilitator.

Contributors

Our thanks to the contributions from:

- UK BIM Academic Forum led by Jason Underwood
- Richard Lane
- Steve Pittard
- Mervyn Richards
- UK BIM Task Group
- Alan Muse
- Adam Matthews
- BSI programme management, Kieran Parkinson

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1. Understand what BIM is, the contextual requirement for BIM Level 2 and its connection to the Government Construction Strategy and Industrial Strategy 2025; including an understanding of:	
1.01	Background and the need for collaborative working (removing waste, errors and poor quality/in-complete information)
1.02	The value of whole life and whole estate approach rather than capital-led and single asset
1.03	The concept of Soft Landings / Government Soft Landings (GSL)
1.04	Roles and responsibilities of the supply chain members and clients as part of BIM Level 2 delivery (cultural / behavioural)
1.05	External context for BIM, global, national, standards and support communities
1.06	Core and extended suite of standards, documents and deliverables describing BIM Level 2
1.07	Barriers to successful adoption of BIM Level 2 and how to create the conditions for success
1.08	The value of high quality data and the principles of data management
1.09	The key vulnerability issues and nature of controls required to enable the trustworthiness and security of digitally built assets

2. Understand the implications and value proposition of BIM within your organisation; including an understanding of:	
2.01	Implementation implications for the introduction of BIM Level 2 on your organisation and supply chain (e.g. training, management processes and systems)
2.02	Organisational change management considerations in context of the introduction of BIM Level 2
2.03	Assessment of capability of your organisation and your supply chain (e.g. standard methods of assessment PAS91 Table 8)
2.04	Technical, technology and interoperability requirements of Level 2 BIM (Information Management / CDE, model-based design and analysis)
2.05	The importance of Level 2 BIM as a driver for business process review and improvement
2.06	Legal and commercial implementation implications for the introduction of BIM Level 2 on your organisation and supply chain (e.g. commercial stakeholders)
2.07	The value, benefits and investment associated with BIM Level 2
2.08	How BIM supports the relationship between Design & Construction and Facilities & Asset Management
2.09	The potential security threats to built and information assets, and the need for the development of an appropriate and proportionate security risk management approach

3. Understand the requirement for the management and exchange of information between supply chain members and clients as described in the 1192 suite of standards and PAS55 / ISO 55000; including an understanding of:	
3.01	The purposes for information in the capital and asset phase
3.02	Requirements for the exchange of information between supply chain members in a collaborative manner as described in PAS1192-2: 2013 & PAS1192.3: 2014 and provided in conjunction with BS1192:2007
3.03	Roles and responsibilities of the supply chain members and clients of BIM Level 2 and the implications on Scopes of Services
3.04	BIM Plain Language Questions, Employers Information Requirements (EIR), Organisation Information Requirements, Asset Information Requirements and the exchange of information between supply chain and client in a collaborative manner in context of PAS1192.2: 2013 and PAS1192.3:2014
3.05	BIM Execution Plan (BEP) in context of PAS1192.2:2013 - the related concepts, purpose and implementation principles
3.06	Digital delivery of information between supply chain members and with clients in context of BS1192-4:2014(COBie), Digital Plan or Work (DPoW) and classification systems
3.07	The Concept, purpose and implementation principles of Project Information Models (PIM) & Asset Information Models (AIM) and the relationship and interchange between them
3.08	A Common Data Environment (CDE) as described in the 1192 suite of standards
3.09	The implications of Level 2 BIM in relation to project team working methods as described in BS1192 :2007
3.10	The way in which Level 2 BIM can be adopted to benefit decision-making for design management
3.11	Technologies and methods for creating, using and maintaining structured information
3.12	Contractual interventions required to support BIM Level 2 and the implications on exiting forms of contract
3.13	Ownership of information and related issues of IP and copyright, insurances and potential liabilities
3.14	Requirements for security-minded policies, processes and procedures which address specific security threats or combinations of threats in a consistent and holistic manner