



NSAI

ANNUAL REPORT 2022

NSAI TECHNICAL COMMITTEES
NSAI/TC 68 BUILDING
INFORMATION MODELLING (BIM)

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1 Chair's Statement

The 'Built Environment' is made up of every building, roadway, waterway, utility network, park, and much more. It supports almost every activity of our society: living, working, learning, healthcare, transport, entertainment, leisure, and sports. The Built Environment's proper functioning is dependent on information. As our world becomes more digital, how we produce, manage and exchange "information" on a construction project - known as Building Information Modelling or BIM - is increasingly important.

BIM is a process for creating and managing information on a construction project across the lifecycle of the project. An output of this process is the Building Information Model; the digital description of every aspect of the built asset from information assembled collaboratively and updated at key stages of a project. This model enables those who interact with the building to optimize their actions, resulting in a greater whole life value for the asset.

Standards for BIM are critical to a "smart society". The standards do not only streamline the methodologies to produce or manage this digital data, but also the structure of the data itself. Standards ensure interoperability between information systems and prevent the expensive loss or corruption of data.

The I.S. EN ISO 19650 series are the key BIM standards, having been adopted by ISO, CEN and nationally, as standards for managing information over the whole life cycle of a built asset using BIM. This Irish National Annex (NA:2021 to I.S. EN ISO 19650-2:2018) provides guidance on how to implement I.S. EN ISO 19650-2:2018 within the national context of construction projects. More specifically, it contains the Irish technical parameters on data components used in BIM, such as field identification and information containers.

The entire I.S. EN ISO 19650 series, including the National Annex, can be purchased on the NSAI store.

Demonstrating just how important BIM has become in the construction industry, the Government Construction Contracts Committee has a strategy for all public sector projects in the future to make use of the technology in line with best practice, as outlined in Irish Standards. As time goes on, we can only expect for this to become a more common request for construction projects up and down the country. BIM standards have a key role to play in supporting the Smart Built-Environment for Ireland.

In November 2021, the Minister for Public Expenditure and Reform, Michael McGrath TD, awarded €2.5 million funding grant to the Build Digital Alliance, led by TU Dublin and the Construction IT Alliance (CITA), established under Project Ireland 2040 to foster increasing levels of innovation in the Irish Construction Sector. Project Ireland 2040 needs a competitive, dynamic and sustainable construction sector to deliver new social, economic and climate resilient infrastructure, and standardization of information management processes across industry, are critical to achieve these objectives.

The NSAI technical committee has added members of the Build Digital Project to the National Committee and looks forward to working closely with the team in the coming years.

Ralph Montague

Chair

2 Introduction

The introduction of Building Information Modelling (BIM) is seen as being the solution to the management of information during the design, construction and operational phases of the asset lifecycle. The development of BIM is advancing rapidly and requires the application of common standards to ensure future compatibility of data exchange and use. The introduction of common standards and operating methods using BIM is intended to:

- Reduce barriers to operation and trade across the European market area and beyond;
- Reduce both the capital and operating cost of construction assets;
- Improve certainty of the construction output including increases in quality and reductions in defects;
- Improve resource efficiency of construction products and materials, improving both operating and embodied carbon performance; and
- Support improvements in team working and collaboration.

3 Scope of TC

NSAI established NSAI/TC 068 (replacing NSAI/TC 47/SC 22) as a National Mirror Committee (NMC) to track the work of CEN/TC 442 (Building Information Modelling). Its purpose is to:

- Provide national inputs to ballots from CEN/TC 442;
- Respond to information requests from CEN/TC 442;
- Act as an Observer Member (O-Member) to ISO/TC 59/SC 13.

3.1 [CEN/TC 442](#)

Details of the CEN technical committee and its operational Working Groups tracked by members are provided in Table 1.

Table 1 - CEN Technical Committee and Working Groups

Committee Name	Committee Title
CEN/TC 442	Building Information Modelling (BIM)
CEN/TC 442/WG 1	Terminology
CEN/TC 442/WG 2	Exchange information
CEN/TC 442/WG 3	Information Delivery Specification
CEN/TC 442/WG 4	Support Data Dictionaries
CEN/TC 442/WG 5	Chairperson's Advisory Group
CEN/TC 442/WG 6	Infrastructure
CEN/TC 442/WG 7	Horizontal role
CEN/TC 442/WG 8	Competence
CEN/TC 442/WG 10	Strategy and Planning

The scope of CEN/TC 442 is defined as:

"Standardization in the field of structured semantic life-cycle information for the built environment. The committee will develop a structured set of standards, specifications and reports which specify methodologies to define, describe, exchange, monitor, record and

securely handle asset data, semantics and processes with links to geospatial and other external data."

3.2 ISO/TC 59/SC 13

Because a considerable portion of the BIM standardisation programme is being progressed by [ISO/TC 59/SC 13](#) "Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)", Ireland is now an Observing Member of this Technical Committee. Task Forces and Working Groups operating under ISO/TC 59/SC 13 are shown in Table 2.

Table 2 - ISO/TC 59/SC 13

Committee Name	Committee Title
ISO/TC 59/SC 13	Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)
ISO/TC 59/SC 13/JWG 12	Joint ISO/TC 59/SC 13 - ISO/TC 184/SC 4 WG: Development of building data related standards
ISO/TC 59/SC 13/JWG 14	Joint ISO/TC 59/SC 13 - ISO/TC 211 WG: GIS-BIM interoperability
ISO/TC 59/SC 13/TF 1	Terminology
ISO/TC 59/SC 13/TF 2	Business Planning and Strategy
ISO/TC 59/SC 13/WG 6	Framework for object-oriented information exchange
ISO/TC 59/SC 13/WG 8	Building information models - Information delivery manual
ISO/TC 59/SC 13/WG 11	Product data for building services systems model
ISO/TC 59/SC 13/WG 13	Implementation of collaborative working over the asset lifecycle

The scope of ISO/TC 59 is defined as:

"SC 13 is charged by TC 59 to focus on international standardization of information through the whole life cycle of buildings and infrastructure across the built environment

- to enable interoperability of information;
- to deliver a structured set of standards, specifications and reports to define, describe, exchange, monitor, record and securely handle information, semantics and processes, with links to geospatial and other related built environment information;
- to enable object-related digital information exchange."

4 Structure and Membership

4.1 Structure

At present, national contributions to the European standardisation programme are managed by NSAI/TC 068. Working group (WG) 01 was established in 2019 to draft a National Annex to I.S. EN ISO 19650-2. WG 02 was established in 2019 to provide national input to a European standard which will offer guidance on the implementation of BIM Execution Plans (BEP) and Exchange Information Requirements (EIR) based on EN ISO 19650-1 and -2. Both working groups are now dormant having completed their tasks.

4.2 Members

Table 3 lists the organisations represented in membership of NSAI/TC 68 for 2022.

Table 3 – Membership of NSAI/TC 68 in 2022

Organisation	Role
ARCDOX	Chair
NSAI, Standards	Technical Secretary
BAM Ireland	Member
Build Digital Project	Member
C+W O'Brien	Member
Construction Industry Federation	Member
DCT Group	Member
DFM Systems	Member
DPW Group	Member
ERVIA	Member
ESB International	Member
Fergal O'Byrne Solutions Ltd.	Member
Grangegorman Development Agency	Member
GS1 Ireland	Member
Intel	Member
Kingspan	Member
Local Government Management Agency (LGMA)	Member
MaREI Centre, UCC	Member
Maynooth University (MU)	Member
McCauley Daye O'Connell	Member
MMA Consulting Engineers	Member
Office of Government Procurement (OGP)	Member
Quinn Building Products	Member
Roughan & O'Donovan	Member
RPS Group	Member
University College Dublin (UCD)	Member
Health Service Executive	Member
Note: Participating experts who do not represent an organisation, are not included on the above listing.	

Table 4 lists the CEN/TC 442 structures which have registered Irish representative members.

Table 4 – Irish representative membership of CEN/TC 442 structures

Structure	Title
CEN/TC 442	Building Information Modelling (BIM)
CEN/TC 442/WG 2	Exchange information
CEN/TC 442/WG 3	Information Delivery Specification
CEN/TC 442/WG 4	Support Data Dictionaries
CEN/TC 442/WG 6	Infrastructure

5 Summary of 2022 Activities

5.1 National

5.1.1 Meetings

All meetings in 2022 were held virtually.

Committee meetings of NSAI/TC 68 in 2022 are shown in Table 5.

Table 5 – NSAI/TC 68 Committee meetings held in 2022

NSAI structure	Date of meeting
NSAI/TC 68	04 th February 2022
NSAI/TC 68	13 th May 2022
NSAI/TC 68	26 th August 2022
NSAI/TC 68	02 nd December 2022

5.1.2 National Work

Generally, the focus of NSAI/TC 068 is on the provision of inputs to ballots and responding to queries coming from CEN/TC 442. The addition of 2 members from the Build Digital Project to the committee has been of benefit in keeping members informed of the progress of this group.

5.2 International/Regional

5.2.1 Meetings

Irish experts variously participated in CEN/TC 442 working group activities in 2022, in particular:

- CEN/TC 442/WG 2
- CEN/TC 442/WG 4
- CEN/TC 442/WG 6

5.2.2 International/Regional Work

Table 7 is a record of [CEN/TC 442](#) active work programme, as of 08th February 2023.

Standard Reference	Standard Title	Stage Code
prCEN/TR	Framework and Implementation of Common Data Environment Solutions, in accordance with EN ISO 19650	10.99.0000
FprEN 17549-2	Building information modelling - Information structure based on EN ISO 16739 1 to exchange data templates and data sheets for construction objects - Part 2: Configurable construction objects and requirements	50.60.0000
prEN ISO 19650-6	ISO 19650-6: Organization and digitization of information about buildings and civil engineering works, including building information modelling -- Information management using building information modelling – Part 6: Health and Safety	10.99.0000

prEN ISO 16739-1 rev	Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries - Part 1: Data schema (ISO 16739-1:2018)	30.99.0979
prEN ISO 22014	Library objects for architecture, engineering, and construction	10.99.0000
prEN 17632-2	EN 17632-2 Building Information Modelling (BIM) - Semantic Modelling and Linking (SML), Part 2: Domain-specific modelling patterns	30.99.0979
prEN ISO 23387 rev	Building information modelling (BIM) - Data templates for construction objects used in the life cycle of built assets - Concepts and principles	20.60.0979
prEN ISO 16757-5	Data Structures for electronic product catalogues for building services – Part 5: Product catalogue exchange format	10.99.0000
prEN ISO 16757-4	Data Structures for electronic product catalogues for building services – Part 4: Dictionaries for product catalogues	10.99.0000
prEN ISO 7817	Building Information Modelling – Level of Information Need – Part 1 Concepts and principles	10.99.0000
prEN ISO 12006-2 rev	Building construction – Organization of information about construction works – Part 2: Framework for classification	10.99.0000

Table 7 - CEN/TC 442 active work programme, as of 08th February 2023

Table 8 is a record of the [ISO/TC 59/SC 13](#) active work programme, as of 08th February 2023.

Standard and/or project under the direct responsibility of ISO/TC 59/SC 13 Secretariat (5)	Title	Last Milestone (Stage Codes)
ISO/DIS 7817	Building Information Modelling – Level of Information Need – Concepts and principles	40.93
ISO/AWI 12006-2	Building construction – Organization of information about construction works – Part 2: Framework for classification	20.00
ISO/AWI TR 16214	Geospatial and BIM review of vocabularies	20.00
ISO/DIS 16739-1	Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries – Part 1: Data schema	40.00
ISO/AW 19650-6	Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling – Part 6: Health and Safety	30.60
ISO/AWI 16757-4	Product Data for Building Services System Models – Part 4: Dictionaries for product catalogues	20.00
ISO/AWI 16757-5	Product Data for Building Services System Models – Part 5: Product catalogue exchange format	20.00
ISO/AWI 23387	Building information modelling (BIM) – Data templates for construction objects used in the life cycle of built assets – Concepts and principles	20.00

Table 8 - ISO/TC 59/SC 13 active work programme, as of 08th February 2023

5.2.3 International/Regional Voting Results

CEN/TC 442 votes closed in 2022:

- ISO/DIS 7817
- prEN 17549-2
- ISO/NP 16739-1 (Ed 2)
- ISO 16757-2:2016
- NWIP EN ISO 22014 - VA ISO/TC 10/SC 8 lead
- Need for revision of EN ISO 23387
- Creation of WG 9 Digital twins
- 1st WD WI00442027 CEN/TR BIM for Infrastructure
- Normative references in WI00442021 prEN 17632-1
- Horizon 2020 project BIMprove liaison request
- ISO/DIS 12911
- FprEN ISO 12006-3
- ISO/FDIS 12006-3 (Ed 2)
- NWIP prEN 17632-2 Semantic Modelling and Linking, Part 2
- FprEN ISO 29481-3
- ISO/FDIS 29481-3
- FprEN ISO 19650-4
- ISO/FDIS 19650-4
- prEN 17549-1
- ISO/NP 16757-4
- ISO/NP 16757-5
- NWIP ISO 16757-4 Vienna Agreement
- NWIP ISO 16757-5 Vienna Agreement
- FprEN 17632-1
- 1st WD WI00442042 prEN 17632-2
- NWIP ISO/DIS 7817 Vienna Agreement CEN lead
- ISO/CD 22014 for comments
- ISO/CD 19650-6
- ISO/CD 19650-6 for comments
- ISO 22263:2008 (vers 3)
- ISO/FDIS 12911
- FprCEN/TR 17920

5.3 Regulatory Development/Update

NSAI/TC 068 does not engage in any standards development work currently intended to support regulation. NSAI is working closely with DETE and other government departments to ensure that standardisation work to support related government initiatives/policy such as outputs from the Construction Sector Group and actions associated with Housing for All, Climate Action Plan are identified and progressed as appropriate.

6 Irish Publications/Reviews

6.1 Publications

In 2022 the following were adopted in Ireland:

- [I.S. EN ISO 12006-3:2022](#) Building construction - Organization of information about construction works - Part 3: Framework for object-oriented information
- [I.S. EN 17632-1:2022](#) Building information modelling (BIM) - Semantic modelling and linking (SML) - Part 1: Generic modelling patterns
- [I.S. EN ISO 19650-4:2022](#) Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) - Information management using building information modelling - Part 4: Information exchange
- [I.S. EN ISO 29481-3:2022](#) Building information models - Information delivery manual - Part 3: Data schema

All standards are available for purchase at www.standards.ie.

6.2 Reviews

In the absence of indigenous Irish Standards on BIM, reviews were not undertaken during 2022.

7 Work programme for 2023 onwards

Because of the international nature of BIM, NSAI/TC 068 will continue to contribute to standardisation work at European and international levels.

NSAI/TC 068 will input as necessary to the CEN/TC 442 work programme listed above.

NSAI will also be liaising closely with the Build Digital Project and other national agencies in relation to the implementation of BIM at a National level and delivery of outputs as listed in Housing for All, Climate Action Plan etc.

8 Additional Information

8.1 Membership matters in 2022:

8.1.1 New members welcomed during 2022:

NSAI/TC 68 welcomed 3 new members in 2022.

8.1.2 Review of membership

NSAI secretariat commenced a review of the committee membership in 2022.

All members are encouraged to review their own membership arrangements for this committee and its sub-structures and to notify the NSAI secretariat if there are any changes to be made.

Anyone interested in becoming a committee member can register their interest [here](#).