International BIM standardization

CEN/TC 442 and ISO/TC 59

Espen Schulze,
- expert CEN/TC 442 WG4
- committee member SN/K 257
- member buildingSMART Product Room

May 12, 2016
The new CEN/TC 442

- The new CEN/TC 442 on BIM (Building Information Modeling) was recently created by CEN/BT decision with Standards Norway secretariat

- CEN/TC 442 web page - Scope

- CEN/TC 442 Business Plan
The new CEN/TC 442

Scope

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.
CEN/TC 442 meetings

- First meeting took place on 2015-09-16 in Brussels
- The second meeting was held in Oslo last February

2nd plenary meeting of CEN/TC 442

on 2016-02-15/16 at
Norwegian building authority
Mariboes gate 13 0183 OSLO
Norway
CEN/TC 442 meetings

• The next meetings:
  – 2016-04-27/28 WG meetings, Paris
  – 2016-06-20/21 TC 442 Plenary, lunch-to-lunch, Lisbon
  – 2016-09-12/13 WG meetings, Berlin
  – 2016-10-26 TC 442 Plenary, one day, Madrid
  – 2016-12-12/13 WG meetings, Vienna
  – 2017-02-14/15 TC 442 Plenary, France (place to be determined)
  – 2017-03-29/30 WG meetings, Stockholm (to be confirmed)
  – 2017-06-19/20 TC 442 Plenary, Zürich
During the first meeting, the TC decided to start the approval process on the adoption of:

- ISO 16739:2013 - Industry Foundation Classes;

The three Work Items have been created and expected to be voted shortly (CEN/TC 442 Work Programme)
The TC decided to create 4 working groups for the development of the future work (CEN/TC 442 structure):

- **Working Group 1 - Strategy and Planning** – BSI secretariat;
- **Working Group 2 - Exchange information** – DIN secretariat;
- **Working Group 3 - Information Delivery Specification** – ASI secretariat;
- **Working Group 4 - Support Data Dictionaries** – AFNOR secretariat.

And a Chair Advisory Group, a permanent group created with the aim to coordinate and advise on generic issues across the CEN/TC 442 working groups.
CEN/TC 442 Liaison Organizations

- The concept of Partnership with European Organizations and other stakeholders – [CEN-CENELEC Guide 25](#)
  - CERAME-UNIE – The European Ceramic Industry Association
  - European Federation of Engineering Constancy Associations
  - FIEC – European Construction Industry Federation
  - building Smart International
  - European Commission – DG Grow – Unit C1 - Clean Technologies and Products – Category 4 (European Counsellor)

- Annex III Organization (Reg. 1025/2012)
  - SBS – Small Business Standards
CEN/TC 442 - Structure

CEN/TC 442 – Building Information Modelling Plenary

WG 01
Strategy and Planning
UK
Chairman’s Advisory Group

WG 02
Exchange Information
Germany

WG 03
Information Delivery Specification
Austria

WG 04
Support Data Dictionaries
France

Gonçalo Ascensão, Alexandre Beltrão
 Convener: Richard Waterhouse

Secretary: Danny Peacock

• provide guidance to CEN/TC 442 related to the development of the Business Plan and Work Program

• monitor worldwide and European current and planned activities regarding Building Information Modelling (BIM)

• provide strategic advice to CEN/TC 442 on matters and issues related to CEN/TC 442 and focus on developing the European strategy for BIM standardization

• to actively collaborate with ISO/TC59/SC13/TF02 - Business Planning and Strategy
WG2 - Exchange information
Secretariat: DIN (Germany)

Convenor: Thomas Liebich

Secretary: Andrea Schilde (replaced by Britta Grotewold)

- development of electronic formats for information exchanges (such as ISO 16739 (IFC))

- development of subsets of such electronic formats for specific information exchanges (such as MVD)

- specification of data content to be exchanged using such specific information exchanges (such as data drops)

DECISION 047 taken by CEN/TC 442 on 2016-02-16:

Scope for WG2 and WG 3 will be further developed once the WGs have had time to develop their areas of activity; “just start working”.

CEN/TC 442 ‘Building Information Modelling’
Convenor: Peter Kompolschek

Secretary: Stefan Wagmeister

Germany’s proposed scope for WG 3:

• development of an overall process definition for communication in the construction industry (such as process maps, as defined in ISO 29481 (IDM))

• identification of roles within such process definitions

• identification of input/output relations between such processes

DECISION 047 taken by CEN/TC 442 on 2016-02-16:

Scope for WG2 and WG 3 will be further developed once the WGs have had time to develop their areas of activity; “just start working”.

CEN/TC 442 'Building Information Modelling'
WG4 - Support Data Dictionaries
AFNOR (France)

Convenor: Roland Dominici
Secretary: Etienne Cailleau

• From the Business Plan:
  • Establish a common Data Dictionary framework and Application Programming Interfaces
  • Harmonisation of construction product properties
  • Harmonisation of European classification tables
  • Dictionaries and Object Libraries
Work Items

Approved NWI:

- ISO 16739:2013 - Industry Foundation Classes;

NWIP to be further developed by the WG’s

- High level Information Delivery Manual (France)
- Data Dictionaries-Method of definition (France)
- Implementing a phase model for Building Information Modelling (Austria)
- Implementing a European properties server based on bsDD (Austria)
## Work programme

<table>
<thead>
<tr>
<th>Sections</th>
<th>Items</th>
<th>Deliverable</th>
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<tbody>
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<td><strong>Understand the current position</strong></td>
<td><strong>Terminology</strong>&lt;br&gt;Identification of stakeholder expectations (roles, phases...)&lt;br&gt;Common base of construction procurement methodology within Europe&lt;br&gt;BIM Implementation wedges&lt;br&gt;Available standards in the market (status and usage)&lt;br&gt;Definition of construction exchange processes</td>
<td>TR</td>
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<tr>
<td><strong>Develop Exchange Information - IFC standards</strong></td>
<td>ISO 18739 Industry Foundation Classes for data sharing in the construction and facility management industries&lt;br&gt;Extend and develop standards for industrial facilities and infrastructure&lt;br&gt;Record management</td>
<td>CEN ISO EN&lt;br&gt;To define</td>
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<td><strong>Support Data Dictionaries</strong></td>
<td>ISO 12006 Building construction – Organisation of information about construction works – Part 2: Classification&lt;br&gt;ISO 12006 Building construction – Organisation of information about construction works – Part 3: Framework for object-oriented information&lt;br&gt;Common Data Dictionary framework and Application Programming Interfaces&lt;br&gt;Harmonisation of construction product properties&lt;br&gt;Harmonisation of European classification tables&lt;br&gt;Dictionaries and Object Libraries&lt;br&gt;Representing European sustainability standards in BIM</td>
<td>To define&lt;br&gt;To define&lt;br&gt;To define&lt;br&gt;To define&lt;br&gt;To define&lt;br&gt;To define&lt;br&gt;To define</td>
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<td>ISO/TS 12211:2012 Framework for building information modelling (BIM) guidance</td>
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<td>Energy Assessment (EN 15603)</td>
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<td>Lifecycle Cost estimation and Assessment, (CEN / TC 350)</td>
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<td>Building Applications (Planning and Regulatory Authorities)</td>
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Gonçalo Ascensão, Alex
Questions?

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Øivind Rooth (or@dibk.no)

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ISO/TC 59/SC13 – Organization of Information about construction works

Subcommittee of
ISO/TC 59 Buildings and civil engineering works

Chair: Kjell Ivar Bakkmoen, Sykehusbygg HF, Norway
Secretary: Lisbet Landfald, Standards Norway (SN)
ISO/TC 59/SC13 – Organization of Information about construction works

The gateway to ISO BIM-standards

- Object libraries
- Classification
- Management of communication

ISO/TC 59/SC 13
- developer of the IFD-standard and IDM-standards

- Further development of the IDM/MVD concept:
  - System standards for development and certification of AECOO|professional content
  - IDM’s/MVD’s with AECOO professional domain specific content
ISO/TC 59/SC13 – Organization of Information about construction works

Organization in liaison:
## ISO/TC 59/SC13 – Organization of Information about construction works

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<th>Working Group</th>
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| Task Force 01 | **Terminology**  
Convenor: Mr. Mike Roberts, UK  
Secretary: Mr. Danny Peacock (BSI) |
| Task Force 02 | **Business Planning and Strategy**  
Convenor: Mr. Mark Bew, UK  
Secretary: Mr. David Hyde (BSI) |
| WG 2          | Classification of the information on the construction industry  
Disbanded 2015-06 |
| WG 7          | Process management  
Disbanded 2014-07 |
| WG 8          | **Building information models - Information delivery manual**  
Convenor: Mr. Henk Schaap, NL  
Project leader: Mr. Jan Karlshøj, DK |
| WG 9          | BIM guidance  
Disbanded 2014-07 |
| WG 10         | Object libraries  
Disbanded 2014-07 |
| WG 11         | **Product data for building services systems model**  
Convenor: Mr. Wolfgang Wilkes, D  
Project leader: Mr. Manfred Pikart, D |
| JWG 12        | **Development of ISO 16739 and other building data related standards**  
Convenor: Mr. Thomas Liebich |
| WG 13         | **Implementation of collaborative working over the asset lifecycle**  
Convenor: Ms. Anne Kemp, UK  
Secretary: Mr. Danny Peacock (BSI) |
ISO/TC 59/SC13 – Organization of Information about construction works

 Participating countries: 24
Australia (SA), Austria (ASI), Belgium (NBN), Canada (SCC), China (SAC), Czech Republic (UNMZ), Denmark (DS), Finland (SFS), France (AFNOR), Germany (DIN), Italy (UNI), Japan (JISC), Malaysia (DSM), Netherlands (NEN), Norway (SN), Portugal (IPQ), Romania (ASRO), Singapore (SPRING SG), Spain (AENOR), Sweden (SIS), Switzerland (SNV), Turkey (TSE), United Kingdom (BSI), United States (ANSI)

 Observing countries: 10
Belarus (BELST), Bulgaria (BDS), Estonia (ESTV), Hungary (MSZT), Iceland (IST), India (BIS), Israel (SII), Republic of Korea (KATS), Poland (PKN), Serbia (ISS)
Developed ISO standards

- ISO 12006-2:2001
- ISO 12006-3:2007
  Building construction -- Organization of information about construction works -- Part 3: Framework for object-oriented information
- ISO 22263:2008
  Organization of information about construction works -- Framework for management of project information
- ISO/TS 12911:2012
  Framework for building information modelling (BIM) guidance
- ISO 29481-1:2010
  Building information modelling -- Information delivery manual -- Part 1: Methodology and format. Under revision (WG 8)
- ISO 29481-2:2012
  Building information models -- Information delivery manual -- Part 2: Interaction framework
- ISO 16354:2013
  Guidelines for Knowledge Libraries and Object Libraries
- ISO 16757-1:2015 (published February 2015)
  Data structures for electronic product catalogues for building services -- Part 1: Concepts, architecture and model. Part 2-5 under development or planned
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Framework for classification
- Uniclass (UK)
- Omniclass (US)
- BSAB (SE)
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ISO/TC 59/SC13 – Organization of Information about construction works

On-going projects

**WG 8 Building information models - Information delivery manual (IDM):**
  Current status: Publication date 2016-05-01

**WG 11 Product data for building services systems model**
- ISO/DIS 16757-2: Data structures for electronic product catalogues for building services -- Part 2: Geometry Current status: DIS approved for registration as FDIS. Publication limit date 2017-04-10

**JWG 12 Development of ISO 16739 and other building data related standards:**
- ISO/NP 16739-1 Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries -- Part 1: Data schema using EXPRESS schema definitions
- ISO/NP 16739-2 Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries -- Part 2: Data schema using XML schema definitions

**WG 13 Implementation of collaborative working over the asset lifecycle:**
- ISO/WD 19650-2 Organization of information about construction works -- Information management using building information modelling -- Part 2: Delivery phase of assets
  Current status both parts: Working Draft under preparation. To be discussed at WG 13 meeting in April. DIS limit date 2016-11-28. Publication limit date 2017-11-28
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Thank you for your attention!

Espen Schulze,
- expert CEN/TC 442 WG4
- committee member SN/K 257
- member buildingSMART Product Room

May 12, 2016