Technical progress at Rotterdam, user emphasis at Oslo

Several major events in buildingSMART's annual calendar took place in April and May. First was the spring Standards Summit in Rotterdam in April, followed in May by the International Council meeting in Oslo and the chapter conference.

At the Rotterdam summit, the five rooms and their working groups met to progress their standards work. The sheer number of parallel sessions was a barometer of the ambitious activities within buildingSMART and their reach into multiple areas of design, construction and AM. New buildingSMART PAS specifications on road and rail are planned to fast-track the standards work done in Korea and China, while version 2.1 of the BIM Collaboration Format is planned and new projects on the overall architecture of infrastructure and requirements for infra asset management have begun.

The 2016 buildingSMART Awards programme was launched in Rotterdam, following the 2014 Heroes of Interoperability competition.

In Oslo, by contrast, an emphasis on users emerged strongly. The Oslo events (24–25 May) comprised a board meeting, a joint session of the board and the Strategic Advisory Council, and the International Council meeting, followed by the chapter conference.

Oslo – vision and business practicalities

Day One at Oslo combined the practical business of running an international membership organisation and discussion of its vision and implementation. A significant strand here was a special project of the Strategic Advisory Council, Marketing IFC Today. The project will aim to meet user expectations of reliable import/export functions between BIM platforms and improved tool certification. The project will define the key commercial capabilities of IFC and secure commitment from vendors and users to support and use them. In practice, this will mean more emphasis on specific IFC capabilities ('views' or MVDs) – which is what the market wants. A project team, drawn from chapters and member companies, has been put forward.

The chapter conference (see page 5) occupied Day Two at Oslo.

On the practical side, the International Council accepted the annual report and accounts. Board member Jan Myhre was appointed bSI deputy chair and Tiina Koppinen, also a board member, was appointed treasurer. The board comprises Inhan Kim, Bill Moore, Christophe Moreau, Dirk Schaper and Rasso Steinmann as well as Jan and Tiina.

A small task group was set up to review bSI's articles. And, combining the practical and visionary sides of buildingSMART, proposals for a new Construction Room were made. Japanese contractor and SAC member Kajima Corporation suggested that the new room should cover on-site productivity, applied BIM, data sharing and the Internet of Things.

Above: Rotterdam Centraal station on Station Square
Source: Jan Oosterhuis GNU Free Documentation License Version 1.2
Below: De Rotterdam building

Awards competition

Launched in Rotterdam in April, the 2016 bSI International Awards invite entries in three categories: design, construction and operation & maintenance, all using open technology. There is also a student category. The winners will be announced in September. For more details, see the bSI website, under News.

Left: Oslo waterfront
Source: D Ramey Logan
CCA-SA3.0 Unported

buildingSMART International Awards
2016 ®

Stronger through effort

Round-up of Rotterdam summit

Rotterdam is a city where each new high-rise is more exciting than the last, creating an evolving and dramatic skyline. And as a hub of global innovation, it provided a fitting host to the buildingSMART summit from 11 April.

The city's motto is 'Sterker door strijd' – 'Stronger through effort'. That too was appropriate, with buildingSMART week, as usual, a time of collaborative effort and sheer hard work.

New PAS specifications planned

BuildingSMART International is now also to publish work in the form of a PAS or publicly available specification, allowing fast-track development to be shared swiftly. First to take this route are the prospective IFC Road PAS (an application has been received from KICT in Korea) and the IFC Rail PAS – the China Railway BIM Alliance announced at Rotterdam that it would be making an application.

Also in the Infra Room

The **Infra Room** had a busy agenda, reflecting the number of projects being developed to enter the standards pipeline or already in it.

Alignment 1.1, formally begun in March, is being run as a fast-track project, like its predecessor, 1.0. New areas are being added to the earlier standard, including linear referencing and rail-specific spirals. Colleagues in China who are developing IFC for rail have proposed an extension on transition curves.

Software vendors are in principle willing to implement Alignment 1.0 but want to be assured of market demand. While several large companies have already identified their use cases for the standard, many companies will only understand the standard's value once it is implemented in software products. The Infra Room has created an alignment deployment project to break this chicken-and-egg cycle and stimulate uptake. A series of pilots (see page 4) will also stimulate deployment.

Other room activities

A number of model view definitions – MVDs – are planned by the **Building Room**, covering the areas of energy, quantity take-off, 5D, annotation, curtain walling and model set-up. This last is the most advanced and ready to enter the formal standards process. The future of the BIM Collaboration Format was discussed – the BCF working group has recently attracted new members – while progress on the configurator project to develop a digital infrastructure for sharing IDMs was noted, alongside a lively debate on COBie.

There is a strong economic case for automated code checking, as waits are disruptive. This is one of the priority areas of the **Regulatory Room**; the other is eSubmission guidelines. The room draws on expertise from countries such as Norway and Korea that have developed sophisticated systems for planning permission and the checking of building codes or regulations.

The **Technical Room** agreed to set up a working group to develop a standard on multimodel-based workflow, while plans for the linked data working group were progressed and the decision taken to make the ifcOWL ontology part of the existing tool, ifcDoc (see technical website). Areas for future MVDs and how they should be treated were discussed.

The **Product Room** heard presentations on object and product data libraries and how the Data Dictionary (bSDD) is being used by private companies and national organisations in a wide variety of initiatives. The room reviewed progress on integrating the bSDD with IFC by linking the IFC.doc tool and the bSDD. A new working group on classification in openBIM models is being formed and the working group on product data templates made progress on its end goal of developing a standard for product data templates based on IFC.

Conclusion

This was a productive week, with the number of participants and meetings reflecting the growth in buildingSMART activities over the last five years. The industry is hungry for our standards: together, the working groups, software implementers and funders can make it happen.

Above: Rotterdam at night
Below: Delegates at Rotterdam summit

Further highlights from the Rotterdam summit

IFC Bridge

Detailed work on an open specification for bridges goes back some ten years, with a solid history in France and the US. Combined with road and rail work from Korea and China, there is now a strong foundation for an IFC bridge standard. Funding for the project is being sought, to allow the work to be fast-tracked to a buildingSMART standard.

Overall architecture

Work is already underway to specify IFC for road, bridge, railway and tunnel, but there is common ground for which consistent definitions are needed. A requirements analysis has begun to identify the scenarios of greatest importance to users and to provide a common basis for future work.

BCF – next steps

The BIM Collaboration Format has proved a useful tool for communicating on individual issues between different models, and version 2.1 of BCF, with minor improvements (eg improved storage and support for multiple BIM snippets attached to an issue), is being planned.

New US chapter
BIMForum becomes host to buildingSMART

The buildingSMART US chapter has been re-formed within BIMForum, the new host organisation. BIMForum is a practitioner-focused organisation which has been running conferences in the area of BIM since 2008.
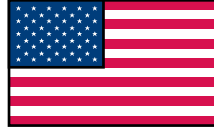
'We are pleased to join forces with buildingSMART International and its impressive chapters around the world,' says John Tocci, chairman of BIMForum. 'Careful alignment of our joint efforts along with robust exchange of technical standards and practical experiences will drive tremendous value for the industry, building owners, users, and the environment.'

BIM in the US

'BuildingSMART started in the US but the recipe for successful chapters elsewhere – government leadership as a client and regulator with a responsive industry – has never quite been there,' says Chris Groome, who leads chapter services and development. 'The new format for the US chapter based on an industry groundswell will hopefully enable us to build support in the market place from the bottom upwards.'

The US market is an important one for buildingSMART, because of its size, significance and market leadership from US-located international companies, including major software developers. BIM maturity varies widely, depending on companies, project types and geography. 'In some cases it is very mature and advanced, while some are just beginning to adopt it,' says Dmitri Alferieff, executive director of BIMForum.

But it is a tantalisingly difficult market to reach with BIM-based collaborative working and technologies. As a federal country with separate states, it is more difficult to mandate consistent and uniform adoption across the country. 'In the US, there is no single agency or entity

BIMForum is a practitioner-led organisation with wide reach

that is able to mandate BIM's use or how it is applied,' explains Dmitri.

'There are individual construction programmes for each federal agency and each state, as well as many municipalities. So adoption is driven primarily by companies seeking project cost savings as well as using it to differentiate themselves from their competition.' There are potential benefits and drawbacks to each situation, and the new chapter is looking forward to learning more about the experiences of other chapters as it gets involved internationally with bSI.

A unique position

As a practitioner-led organisation engaged in solving the practical difficulties that users face, BIMForum is well placed to reach the user market. 'We have a history of holding conferences that draw designers and builders together to focus on industry improvement,' says Dmitri.

At bSI, Chris is enthusiastic about the strengths of the new chapter. 'It is a communications body rather than a technical body,' he adds. 'Because of fragmentation of the industry and its clientele, it can bring a lot to other chapters in the area of mass communication. So it adds capability just where we need it today.'

The US chapter, which took part in the Oslo meetings, is looking forward to its new role within bSI and hopes to engage its community of practitioners with bSI's standards activities.

John Tocci, CEO of Tocci Building Companies, is the BIMForum chair; Jan Reinhardt, Adept Project Delivery, is the BIMForum vice chair; Dmitri Alferieff is the executive director of BIMForum and the buildingSMART US contact point (alferieffd@agc.org)

Open BIM for infra in Australia
Plans for a task force to coordinate adoption

The national adoption of open BIM came one step closer in Australia with the publication in March of a federal government report into the role of smart ICT in the design of planning of infrastructure. The report recommends that a Smart Infrastructure Task Force should be formed on the model of the UK BIM Task Group.

'Australia is at risk of slipping behind other nations in the adoption and execution of BIM, though there are promising signs of change, driven particularly within the infrastructure sector,' explains Jim Plume from bS Australasia and co-author of a position paper that informed the thinking of the federal government committee. The Australasian chapter joined forces with the Spatial Industry Business Association (SIBA) to explain the benefits of digital technology and get behind the creation of a national digital policy.

'In Australia, at the moment, we see several state government agencies all working separately,' says John Mitchell, chair of the Australasian chapter. 'We are getting individual silos of excellent work that is often undervalued... if we have a Commonwealth commitment [and] the engagement of the states, then the industry will avidly support this process.' The strong evidence presented by bS Australasia and other industry parties led to a positive outcome, and at least half of the ten committee recommendations relate to BIM in one way or another.

The new Smart Infrastructure Task Force would coordinate national protocols for infrastructure-related data and other standards in the area. 'There is a growing number of government infrastructure instrumentalities now investigating BIM,' says Jim, who is delighted that the joint position paper has had such a powerful impact. Going forward, bS Australasia will continue to lobby for a strong voice in any task force that is formed.

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First infra standard reaching users

Alignment deployment pilots to be launched

The infrastructure standard, Alignment 1.0 was released last year. Now the industry – asset owners and their supply chains – can benefit from buildingSMART's fast-track development of the standard, and the Infra Room is coordinating a project to get IFC Alignment 1.0 out to end-users swiftly.

A series of deployment pilots is being set up – breeding grounds in which the standard can be tested and implemented, with technical help from buildingSMART.

Management at country level

The deployment pilots will be shaped and managed independently at country level, with the participation of asset owners, designers, contractors, software developers and others who are involved in infrastructure projects such as bridges, roads and highways.

At present there is interest in six countries. The first step for prospective participants is to form a deployment team, with partners likely to be drawn from software developers, construction companies and national road or rail authorities. The deployment team should then register with the Infra Room, where Laura Mol is project coordinator.

'Experimental work will be going on during testing and roll-out, and we want to ensure that the experience is shared,' explains Laura.

Software companies will play a central role in the alignment deployment pilots, and several are already on board. The software developers will be implementing Alignment 1.0 (and possibly the extension, 1.1) in their applications, as well as participating in the pilot tests in which the implementation of the standard is tested for a specific use case. During these tests, adjustments to the software might be needed and the software companies are expected to take the opportunity to improve their solutions.

Support from buildingSMART

As the deployment teams define their project plans and use cases, buildingSMART will provide technical support through Thomas Liebich, who leads the Model Support Group. 'Both at the early definition stage and later during execution, we will offer advice and technical support,' says Thomas. 'We want to identify and resolve any issues of implementation through the pilots.'

The buildingSMART summits in 2016 and 2017 will be used as a forum for presenting the progress and results of the pilots.

'The expected runtime for the pilots is one year,' says Laura. 'Some deployment teams may decide to fast-track their pilots and we would welcome this. But a later start is no barrier to participation in the project.'

Outcome and benefits

As always, there are benefits for front runners. The pilot projects will gain early experience of Alignment 1.0, which is widely seen as a much-needed standard, and will benefit from guidance from buildingSMART's own deployment project team. User requirements can be communicated to the software and the standards developers.

The software companies will gain first-mover advantage and, of course, the direct input from the users on the pilots, such as national road authorities, designers and contractors.

The feedback will also be useful for buildingSMART as IFC is being extended to all facets of infrastructure: not just alignment but also road, rail and bridge. 'Pilots like these accelerate the adoption of bSI standards and help us to understand exactly where we can make improvements,' concludes Henk Schaap, project coordinator, Infra Room.

Contact Laura Mol, who is coordinating the deployment pilots, at l.mol@gobar.nl

Reporting on 2015

'An important step in 2015 was the publication in April of Alignment 1.0', 'we completed 11 certifications', 'the first learning framework for basic training has already been developed', 'the publication of five standards during 2015 reflects the hard work…'

What did bSI achieve in 2015? Room leaders, coordinators and buildingSMART officers sum up the year's achievements in *Highlights of 2015*, a short illustrated document presented to the bSI board and International Council at the Oslo meetings. With bullet points, extended quotations and summaries, *Highlights* is a lively, easy read.

Available on the intranet under Organisation/International Council (together with the CEO Report 2015/16 and annual bSI accounts); also available on www.buildingsmart.org under News/ Newsletters. The pdf can be obtained from Chris Groome or Betzy Dinesen for posting on chapter websites.

Above: Erasmus bridge over the Nieuwe Maas river; below: Zeeland bridge

Chapter conference

Users and compliance high on Oslo agenda

Following last year's well-received chapter workshop in Paris, a chapter conference was held in Oslo on 25 May. Twelve of buildingSMART's 17 chapters attended and, in the first session, representatives of four chapters gave a presentation.

Chapter models

What is the model of a modern chapter? How can it best engage users? Speakers from the Canadian, Norwegian, US and UK chapters set out widely differing models of structure and membership, showing that buildingSMART has the flexibility to encompass different types of host organisation.

The Canadian chapter is funded by sponsorship and membership is free. The chapter has 300 members and 1,700 affiliates. Norway has a traditional structure with tiered membership. A highly innovative chapter – which has pioneered training, a user guide to open BIM and funding of international projects by larger members – it is now setting up user groups to bring it closer to market realities.

The US chapter, relaunched this year, is now hosted by the BIMForum, a practitioner-led organisation which discovered that conference delegates wanted follow-up action on BIM – this led to a buildingSMART chapter being set up within the organisation. The UK chapter, which has operated without interruption since 1996, is placing renewed emphasis on users. With the UK government requiring BIM level 2 working from its suppliers, the chapter is undergoing organisational changes with a strategic shift towards users and a reinvigorated user group.

User perspective: Kajima

Japanese contractor and SAC member Kajima gave insights into what it is like at the user end for an enthusiastic adopter. Since 2008, Kajima has used BIM in 740 projects worldwide, 300 in its homeland,

Japan. It has seen a 60% cost reduction in construction drawing since the base year of 2012. A global BIM, stored in the cloud, allows data sharing via an intranet for Kajima personnel and via the internet for subcontactors. The automation of formwork, with the machine-cutting of panels and the allocation of panels into the frame of the buildings, is creating efficiencies. As a user, Kajima is benefiting from BIM, but it wants more and is urging the expansion of open BIM to construction sites.

Compliance

In the afternoon session, progress on compliance was covered, with input from members and officers of several chapters. Certification of individuals, a long-held ambition, is becoming a reality, with certification of the 'Basic' module expected towards the end of the year.

Conclusion

'Our bSI Chapter Services really took off last year with our regular online meetings,' said Chris Groome, bSI secretary and business manager, afterwards. 'This annual gathering of the chapters enables us to see our shared priorities with greater clarity. Understanding user needs – and then acting on them – is a concern for chapters around the world. There are actions that chapters can take immediately – read our practical tips [box, right].'

Members can view chapter reports and other Oslo presentations on the bSI intranet under Organisation.

Above top: The chapter conference was held in Oslo at Fornebu, the site of the old airport, now being redeveloped. The Statoil building used advanced BIM modelling, with construction taking only 20 months on site. Read more on the BIM Hub (thebimhub.com/2015/12/27/advanced-bim-modeling-made-it-possible/#.V35gZfkrJD8)
Source: Nanisimova/Shutterstock.com
Above: Delegates in session
Below: The full turn-out in Oslo

Tips for user engagement

1. Try to get professional institutions and trade associations to affiliate to your chapter – they are full of users
2. Hold a topic-based workshop on user problems and promote likely data-based solutions
3. Tell your members about projects going on in the bSI rooms and offer to put them in touch
4. Promote events that bring experienced users and novices together
5. Highlight case studies that show real-world activity
6. Use conferences to identify user problems, especially in breakout sessions, and follow up with resolutions for joint action

Board, executive and contact points

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Chief Executive
Richard Petrie

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Jan Myhre (deputy chair), Dirk Schaper and Rasso Steinmann

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Global standards for openBIM

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