

Business Gain through Open Technology awards

First-ever bSI 'Heroes of Interoperability' announced

BuildingSMART International announced the results of its newly inaugurated award series on 27 October at the start of buildingSMART week in Toronto.

The overall winner was the New Hospital Project in Østfold, near Oslo, Norway, with special mention given to three further projects.

'The award programme was created to provide a platform for showcasing projects that use buildingSMART solutions,' explains Jan Karlshøj, leader of the buildingSMART Process Room, who headed up the international panel of judges. The entries, which had to deploy one or more buildingSMART tools and standards, were judged on how effectively they had used open standards in their projects.

'The winner, the New Hospital Project in Østfold, is an innovative project with a committed owner who demonstrates leadership,' says Jan. 'The project team leveraged open technology to support multiple project uses, streamlining collaboration and sharing information over the full life-cycle of the facility, including training and simulation.'

There were also huge benefits to the client, who will receive handover information in the form of open BIM. Future opportunities for improvement have been identified by the client, and – significantly from a buildingSMART perspective – the team demonstrated a determination to share their knowledge and experience. This chimes with buildingSMART's goal of cascading best practice, across projects and across country boundaries, to show that open BIM really works.

Recognition for SMEs

With the construction industry made up largely of small and medium-sized enterprises, buildingSMART wanted to recognise the valuable role of SMEs in adopting bS standards and open BIM. 'SMEs don't have the same capacity as large corporations and may find it more difficult to promote and implement new technology,' says Jan. 'We were impressed by the quality of the entries from SMEs and made two awards in this category.'

One was to Bond Bryan Architects in the UK for its work on the David Hockney Building at Bradford College, notably in the area of IFC file exchange. The second was to Juul Frost Architects, who acted as BIM co-ordinator for the Örebro Business School in Sweden. The client, Örebroporten, had made BIM a project requirement, and Juul Frost helped suppliers – many of whom lacked experience in BIM – get up to speed.

Sharing end-user experiences

Finally, the fourth award was a special mention to Danish contractor MT Højgaard in recognition of a white paper presenting an analysis of the quality of design material.

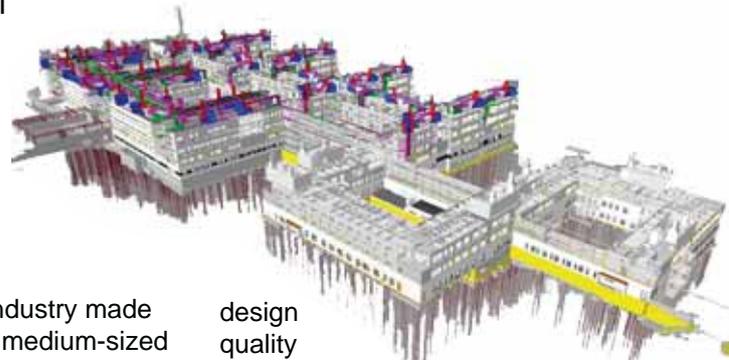
The contractor had conducted a statistical analysis of 153 projects. The research was able to quantify results and showed, in the words of the paper, 'how the IFC format almost eliminates projects with a low design quality and that the use of IFC... increases

design quality by 45% compared to projects without IFC'.

... and next year

'We were encouraged by the standard of entry and the diversity of IFC use,' Jan concludes. The bSI organising committee is already thinking ahead to the 2015 awards and would welcome entries from SMEs, as well as examples of the BCF and IDM standards in use on projects.

Case studies based on the entries will be shared with the buildingSMART community through the website. For more on the awards competition, contact Jan Karlshøj, jan.karlshøj@gravicon.dk.



Clockwise from top: Model view of the New Hospital Project in Østfold; MT Højgaard award certificate; David Hockney Building, Bradford College, designed by Bryan Bond Architects; Örebro Business School (BIM co-ordinator: Juul Frost Architects)



Malaysia chapter launched

Malaysia has become the latest country to join the buildingSMART family. The new chapter was launched at the country's first-ever International BIM Day event in Kuala Lumpur on 22 September.



The chapter, which is known as MYbuildingSMART, was formally opened by Nick Tune, bSI treasurer, who had flown in from the UK for the launch, at a packed conference where the keynote address was given by Deputy Works Minister Datuk Rosnah Abdul Rashid Shirlin.

'It's most welcome that Malaysia takes a leading role in developing BIM within the ASEAN region,' says Nick Tune. 'There are 600 million people in the region and a great demand for infrastructure and construction investment. The benefits of improved

productivity and quality will be felt throughout society.'

'The establishment of a Malaysian chapter of BuildingSMART will provide the optimal channel to achieve best international practice standards for the Malaysian construction industry,' adds Dr John Rogers, founding director of the chapter.

Malaysia joins buildingSMART against a background of vibrant growth in the country's construction industry. Government statistics for Q2 of 2014 (the most recent available) show double-digit growth of 10.8% year on year. Non-residential and civil engineering experienced the highest growth, followed closely by residential.

The Malaysian government has long been aware of the central role of ICT in improving the efficiency of the industry. The Construction Industry Master Plan (CIMP) for the years 2006–15 identified ICT as one of its strategic thrusts and further strengthening will take place in forthcoming years.

However, most construction is carried out in the private sector. The adoption of BIM here is said to be progressing well, thanks to the recognition by the private sector companies of the benefits it can bring. There are barriers to implementation, with issues of hardware and software, and the perceived time and cost of adopting BIM foremost among them.

As part of its BIM activities, CIBD runs awareness programmes and workshops.

'We believe that as a chapter of buildingSMART, we will be well placed to work towards the implementation of BIM across the Malaysian construction industry,' says Harris Ismail, founding director of MYbuildingSMART.



Above left: Deputy Works Minister Datuk Rosnah Abdul Rashid Shirlin at the National BIM Day conference with CIBD CEO and chairman of MYbuildingSMART Dato' Sri Judin; above: Harris Ismail of CIBD, deputy chairman and a founding director of the new chapter

Progress in Toronto

BuildingSMART week took place in Toronto from 27 to 30 October. Progress was made in all the rooms and in broader bSI matters.

The youngest of the rooms, the Regulatory Room (RR), was formally launched. A working committee, known as RegCom, is being set up, and interim membership was agreed. Between now and March, a work programme will be prepared, but it was already clear that the RR should not confine its scope to code checking issues but broaden its remit to cover standards and product libraries.

Infrastructure research projects are expensive to fund but they are at the heart of buildingSMART's ambition to extend IFC to infrastructure. There have been concerns about duplication of work in different countries, so the debate within the Infrastructure Room on prospects for an international project on roads came at the right time. There was strong interest in work being done at the

Korea Institute of Civil Engineering and Building (KICT) – and in other chapters – to develop IFC for roads. The week ended with a resolution by the Infrastructure Room to prepare a bSI project proposal to develop an international IFC Roads project.

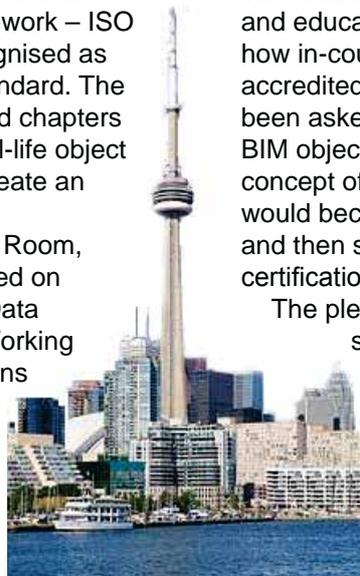
Over in the Process Room, now renamed the Building Room, there was an urgent request for the IDM interaction framework – ISO 29481-2 – to be recognised as a buildingSMART standard. The room also encouraged chapters to take part in the real-life object mapping project to create an IFC4 primer.

And in the Product Room, the emphasis remained on the buildingSMART Data Dictionary (bSDD). Working with other organisations was seen as key to the success of the bSDD, and the room determined to pursue collaboration with other standards

organisations and their products, such as the IEC (International Electrotechnical Commission) and its Component Data Dictionary.

Progress towards new-style bSI certification has been slow so far this year but has received a fillip with the decision at Toronto to establish a task force to deal with people certification. The task force will consider training and education requirements and how in-country programmes will be accredited. The Product Room has been asked to develop international BIM object standards based on the concept of 'IFC for products' which would become an ISO standard and then serve as the basis for certification.

The plenary sessions covered standards, projects and administration at a high level. All in all, this was a productive week, as buildingSMART starts to operate under the new business model.



Bim around the world

BIM in Russia – an industry in transition

Can BIM bring value to Russian companies in the AEC industry? Five years ago, this was the question that Russians were asking. Today, it is a given. Now construction clients are becoming aware of the benefits of BIM and AEC companies are trying to find the best way to adopt the technology and change the mindset of employees.

'We have witnessed dramatic changes in attitudes, especially during the last year,' says Marina Korol, from consultancy Concurator and Intelligent Construction, a Russian non-profit organisation. And Nick Nisbet, AEC3 and bS UKI's technical co-ordinator who has lectured on BIM in the country, is also impressed by the changes. 'On my recent visit to Moscow, I found a good awareness that BIM is the right strategic direction for the construction sector,' he says. 'Though people are still asking about the immediate return on investment – a question on which the UK foundered for several years.'

BIM in evidence

Visitors to Moscow and St Petersburg will find dazzling new buildings that – behind the scenes – have relied on BIM. The Russian multidisciplinary practice, KB ViPS from St Petersburg, played a major role in the design of the New Mariinsky Theatre. Mariinsky II is a large auditorium within a historic arts complex. The project required extensive underground space to be made available for stage machinery, dressing rooms and building services in difficult ground conditions.

BIM allowed these complex spaces to be successfully managed.

Also active in the roll-out of BIM is the Etalon Group, again from St Petersburg, with numerous projects underway both there and in Moscow.

Global companies are having an impact, working in partnerships with local companies. After 80 years, football team Spartak Moscow has at last got its own stadium, seating 42,000, with pre-cast concrete terracing and an arched steel-trussed roof, designed to cope with Moscow's extreme temperatures. The design and project management were led by AECOM, who used an integrated 3D structural modelling and analysis process, which allowed the roof geometry to be optimised for various load conditions such as snow, wind and thermal loadings.

'There are dozens of known projects where BIM has been implemented at the design phase,' says Marina. 'But most significant, perhaps, are the projects of the state nuclear corporation, ROSATOM, where BIM is integrated in the processes at all stages of the life-cycle. Their design company, NIAEP, is using cutting-edge technologies for designing nuclear power plants.'

Government and innovation

This is part of a positive trend of heightened client awareness. Even more promising is the support from government. 'Innovation is very high on the government agenda,' observes Marina. 'For example, there are mandatory innovation programmes for state-owned corporations such as Gazprom and Russian Railways.'

The meeting in March 2014 of the Presidential Council for modernisation and innovation in the Russian economy was dedicated to innovation in construction. Among the key decisions was an agreement to develop an innovation strategy for the construction industry as well as a phased plan for BIM implementation in the Russian Federation.

But hearts and minds also have to be won over. The technical skills are being learnt – training programmes are available and AEC design consultants are on hand to help – but cultural change is also needed. 'It's the organisational aspects – new processes, new collaborative practices – that we have to tackle,' adds Marina.

On the strength of his last visit to Russia, Nick Nisbet is upbeat. 'Russia has a strong history in structural and mechanical engineering and that expertise should be captured and carried forward to BIM working.'

Finally, standards are needed by the industry. There is a serious gap here. 'As a professional community, we have to organise ourselves to develop standards and adopt the best international ones,' concludes Marina.



BIM is already in use in Russia: (above) auditorium of the New Mariinsky Theatre in St Petersburg; (below) Spartak Stadium in Moscow, which meets FIFA requirements for the 2018 World Cup

Spartak Stadium

Football Club Spartak Moscow did not have its own stadium until the Spartak Stadium (left) opened in 2014. The 'red and whites', as the team are nicknamed, have a diamond-shaped club logo which is picked up in their home colours, and is also echoed in the cladding on the stadium.

The steel-trussed roof was designed to deal with heavy snowloads, as the temperature can drop to -40°C . The design and project management were led by AECOM.

Chapter programme

The bSI chapter programme was launched in May 2014 to strengthen links and exchange best practice. Six months down the road, how is the programme doing?

The programme started before the meeting of the International Council in May as part of the briefing process for the changes that were ushered in at the IC meeting. The development of chapters is seen as a key part of International through the chapter role of promoting implementation of standards by publicity, training and certification in their home countries.

Better communication

The chapter programme is enabled by the regular quarterly meetings, by phone, hosted by CEO Richard Petrie and Chris Groome, bSI business manager, who heads up the programme. There is a high attendance: in the October chapter meetings, for example, 13 chapters took part with 16 representatives.

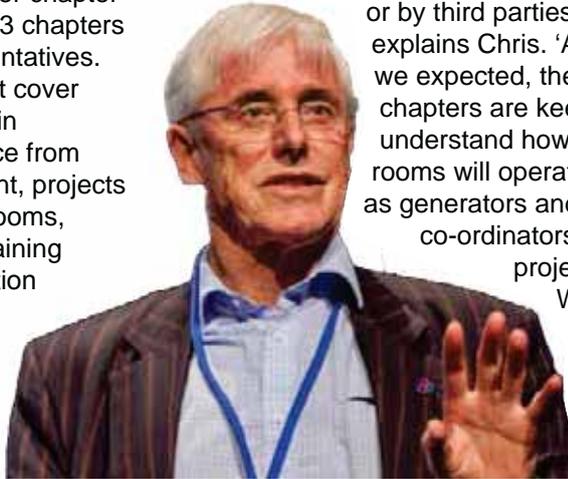
A typical agenda might cover the latest developments in standards and compliance from the International viewpoint, projects being developed in the rooms, and communications. Training and compliance/certification are expected to rise in importance in the future.

The topics for the October meetings

included the wider membership arrangements and how organisational members will fit in with the chapters. Projects are always a subject of strong interest for chapters. 'Our aim is to bring the projects into the rooms, whether they are generated in the

rooms, in the chapters or by third parties,' explains Chris. 'As we expected, the chapters are keen to understand how the rooms will operate as generators and co-ordinators of projects.

We are



Fast-track extensions to coordination view

Two model view definitions for IFC4, providing a reference view and a design transfer view, are at their final stages and will provide essential support for open BIM. But the project for a model coordination view is now being enhanced by several add-ons.

The work will cover exchanges in the areas of handover of building models to operations, energy assessment, scheduling, annotation and quantity take-off. The new MVDs will be delivered in mvdXML format and once they are ready, software vendors can use them to implement IFC4, with its many improvements over the previous IFC release.

'The extensions will enhance the coverage of open BIM data exchanges and include more workflows,' says Thomas Liebich, AEC3, who leads bS Model Support Group.

The fast-track project starts in January 2015 and is expected to complete by June. Funding has been provided by the Norwegian government through its Direktoratet for Byggkvalitet.

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moving from *doing* a very limited number of projects in-house to *hosting* a large number of projects coming in from outside. The chapters need to know how this will work and how they can contribute.'

New chapters

The development of new chapters is a crucial part of the chapter programme. Chris, with his wide experience of the industry, continues to play a key role in nurturing the new chapters. Following the launch of the China and Hong Kong chapters in 2013, Chris helped in the formation of Malaysia, launched in September 2014, and Spain, launched in November.

'The creation of new chapters is a powerful step towards encouraging companies in these new territories to adopt open BIM,' says Chris.

Meanwhile, relations between the chapters are being strengthened. The chapter programme is bringing together some of the countries that are doing projects in the area of infrastructure to share problems and solutions. And in the area of compliance, Germany, France and the UK are getting together to form the nucleus of international collaboration on standards and certification.

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Certification with a wider remit

A certification task group was set up in Toronto in October, made up of Nick Tune, Rasso Steinmann, Tomi Hentinnen and Steen Sunesen. The group will develop proposals on various elements of certification – in particular people certification, training and the accreditation of in-country programmes – for approval by ExCom.

To get involved, contact Nick Tune, tunen@bre.co.uk.

Spring summit in London

The next buildingSMART Summit takes place in England on 23–25 March 2015. It will be hosted by BRE at its Watford site. The summit will be followed by a conference, BIM Build, in London.

IC meeting in Paris

The International Council meets in Paris in the week commencing 15 June 2015.

Details will be posted on the website, www.buildingsmart.org.