

## The only game in town Chairman sets out his vision

Patrick MacLeamy, bSI chairman, set out his vision for the future of buildingSMART International in a paper presented by ExCom to the International Council at its meeting in Helsinki in May. 'We are at a true turning point,' he argues. 'The world has awakened to the promise of openBIM – and bSI is the only game in town.'

The paper, entitled *The Way Forward*, should be read in conjunction with the bSI new strategy, Roadmap 2016 (under revision) and the bSI business plan, which is being developed by ExCom. *The Way Forward* charts bSI's future development as a standards organisation, emphasising how its standards and tools will play out in the real world.

### Strengths and weaknesses

In his paper, Patrick starts by setting out the strengths and weaknesses of bSI. Among the strengths are its global reach and influence, its commercially neutral positioning and a team approach, drawing on expertise from around the world, not least from the officers and volunteers in member organisations. It is this core team that has developed the technical work.

But there are weaknesses, which Patrick acknowledges. The chapter-based structure means that if some chapters flag – for reasons such as economic recession in the home country – there is a knock-on effect for bSI, which is largely funded by contributions from the chapters. The reliance on voluntary or semi-voluntary labour, much of it part time, is hindering the acceleration of new technical development.

### The new look

Several strands will weave together in ensuring that bSI grows beyond its present status and achieves its goals as the premier institution for technical and user standards. One is leadership: a paid professional leadership is envisaged as key to transforming bSI's effectiveness. And the use of full-time paid professionals would complement the consultancy work being done, at the highest level of competence, by bSI officers. Secondly, external sponsorship would offer the means of undertaking more projects. Thirdly, an international advisory board would allow key players to have an immediate say in forthcoming work.

Over the past 18 months, the structure of bSI has been reorganised into three 'rooms' or centres of activity: the Process Room, the Product Room and, most recently, the Infrastructure Room. A Technical Room (covering bSI standards and certification) underpins these three rooms.

### What next?

So what work would a strengthened bSI want to tackle? *The Way Forward* lists the high-priority projects that bSI has identified, assigning them to six categories, to meet user and technical needs, as well as foundation work and certification. These are projects that will make open BIM a reality: certified software that allows integrated working, with software tools that do what is needed and end-users educated to deploy them, intelligent handover information and the first stages of the vast task of extending IFC to infrastructure.

There is much to be done, and having well-defined priorities and the right working structure are the best possible start.



### Helsinki meeting in May

The International Council of bSI met in Helsinki during 22–23 May 2013. Two items stood out at the event. The first was a new strategy document, *The Way Forward*, written by Patrick MacLeamy, bSI chairman (see main story). The other item that attracted much interest was a presentation by Mark Bew, bSI UKI chairman, on developments in the UK government BIM programme. The experience of the UK, as a large economy, in paving the way for required BIM use in public sector projects is expected to offer big rewards to UK public clients and inspiration and lessons to other countries.

### Implementing IFC4

One important resolution of the Council concerned the IFC4 standard, now accredited as a full ISO standard and representing a step change from the previous release, in coverage and convenience. End-users need to have access to it in the software products they buy, and the Council asked its two influential groups, the International User Group (IUG) and the International Technical Management Committee (ITM), to give the roll-out of IFC4 a high priority in their dealings with the software industry. Software that complies with IFC4 will need prompt certification, so bSI's certification service needs to gear up to meet future demand for checking and quality assurance of IFC4-compliant products.

### Structure, administration and finance

Other resolutions covered the creation of a new Nomination Committee to vet nominations for officers and ExCom (this was an election meeting), the formal naming of the infrastructure centre of activities as the 'Infrastructure Room', and budget proposals, with ExCom asked to produce a 'base budget' and a 'target budget'.

Resolution 30/11 asks IUG and ITM 'to give high priority to IFC4 software implementation'. See [www.buildingsmart.org](http://www.buildingsmart.org) under Resources (where *The Way Forward* can also be downloaded)



## Realising the vision

### ExCom meet to develop business plan

Patrick MacLeamy's visionary document, *The Way Forward*, triggered an ExCom meeting in London, led by Patrick, on 17–19 July 2013. Committee members discussed how the goal of truly integrated working should be approached in the immediate and medium term, to get action on high-priority work. Finding the right balance between International (or bSI) and the chapters is at the heart of the business plan. 'We need to be strong at the centre, but there is special value in the chapters,' said Patrick.

The business plan that is being developed will set priorities among the technical and other projects that need to be done. Priorities are considered in conjunction with how 'do-able' a project is in reality. This will point to an 'order of play', as funding is sought for the projects.

Projects are now being assigned to five categories: vendor-related projects; BIM-enabled co-working (such as an IFC4 primer); the

product value chain; data drops (ie submitting data at key milestones of a construction project) which give value to the client; and infrastructure. ExCom rated priorities on a scale of four, and these ratings will be combined with the priorities set earlier to clarify which projects will be treated as the highest priority. 'We are looking at all projects through a lens of the value proposition,' explained Francois Grobler, ExCom member and ITM chair.

Mark Bew, chair of the UK government BIM Task Group and also chair of bS UKI, attended the second day of the ExCom meetings. He confirmed the UK government's interest in buildingSMART activity and drawing on its technical output. Equally, ExCom was eager to show the projects that it plans to do and that 'level 3' working (with integrated working and shared models used all along the supply chain) can be achieved if the priority projects are sponsored and move ahead. BuildingSMART commands impressive technical expertise.

A busy six months lies ahead, as bSI completes the business plan and gets buy-in from strategic partners for the series of projects. 'The business plan is the ultimate practical necessity for us,' said Patrick.

### IFC use extended in Denmark

In 2007, public sector projects at state level in Denmark were required, for the first time, to use IFC. Now, from 1 April 2013, all publicly financed projects worth more than €2.7 million have to meet a series of requirements for 'digital construction' – known as the 'seven demands' – which include the use of IFC in project design, construction and handover.

This is a significant extension of IFC use. Project owners are affected at four levels. The first is the state itself – or central government – for university buildings, government

offices and prisons. Here, the financial threshold is lower, at only €675,000 and the requirement has been in place for six years. At the second level are the five regional authorities responsible for hospitals. Next come the local authorities, 98 in all, who are responsible for schools and kindergartens, care homes for the elderly, town halls and so on. Finally, social housing agencies are involved – Denmark has a range of semi-public housing companies which build and maintain more than 500,000 homes, the equivalent of one in five Danish homes.

The 'seven demands' cover all areas of digitalisation in construction. The idea behind the approach is to increase the productivity of the Danish AEC industry. If public clients impose digital requirements, supply chains will have to meet them. This means they will have to adapt their working methods and get the right workflows in place. IFC is a part of this.

IFC and BIM have already proved their worth in central government projects. One notable success is the use of IFC models in competitive bids. In 2010 a design competition for a new prison required bidders to submit their designs as IFC models. And in 2011 a university project for a new building at Ballerup campus also required IFC models. According to Jan Karlshøj, bS Nordic chairman, the client 'reported that having access to

IFC models provided the best position ever for selecting the best proposal in a competition – the IFC models gave easy access to information on area, energy consumption and efficiency'.

Now smaller projects up and down the country will be getting involved in IFC. What is the likely impact? Around 250 projects will be affected every year, according to current estimates. Early movers like Gentofte local authority (or municipality), as a project owner, began requiring IFC ahead of the deadline. To help suppliers, the Danish organisation bips offers a standard contract covering the 'seven demands' and is planning a seminar on how to use the contract. The buildingSMART group within bips holds user group meetings; commercial seminars are on offer; and a 74-page guide from government is available.

'When people look back in a few years' time, the "seven demands" will be seen as a breakthrough for the broader use of digital-supported design, construction and facility management,' concludes Jan. 'And the inclusion of IFC as a requirement in almost all public projects is creating business reasons for software companies to ensure IFC support of the highest quality.'

*Thanks to Stig Neumann of bips for his help in preparing this article*



Public projects in Denmark, large and small, now have to meet IFC requirements. For the new prison on the island of Falster, architects had to submit their designs as IFC models. The winning design, from CF Møller, will create a landscaped urban environment intended to promote rehabilitation  
Source: C. F. Møller Architects

## Staging a BIM come-back in Portugal

The construction industry in Portugal remains badly affected by the economic downturn. Like earlier years, 2012 brought with it insolvencies and unemployment – and only the companies who had invested in international business activities stayed comfortably afloat. Construction in the country finds itself in a double bind: on the one hand, housing stocks are ample and there is no impetus to build more homes; on the other, infrastructure and public sector projects have been put on hold. The construction sector makes a big input into GDP, and problems in the sector are having a ripple effect.

Despite the austerity, interest in BIM is undergoing a revival. ‘Companies in Portugal have generally heard about the concept, but mainly through the software houses that give them support,’ says António Ruivo Meireles, BIM Manager at Mota-Engil, the multidisciplinary practice and largest contractor in Portugal.

A number of companies in Portugal are adopting a BIM approach, but until recently it has been largely at the design stage of a project, not for construction management or FM. This has begun



*The UPTEC building (University of Porto) deployed BIM for 3D, 4D and 5D purposes in a fully integrated manner*  
Source: University of Porto

to change. ‘Nowadays, the interest in exploring this tool comes from all sectors and players in the construction sector,’ states António.

Mota-Engil is one of a group of international companies who are pioneering the BIM methodology on-site. The group took part in a research project, SIGABIM, along with the University of Porto and architects

Arquifam, to explore and lead BIM implementation in Portugal. ‘The project is having a significant impact on perceptions of BIM and the advantages it brings, both in design and construction,’ says António.

SIGABIM facilitated process change within the company, with BIM training among personnel and the use of pilot projects, using construction sites that have been identified as offering a promising return and forward-looking project teams.

Promoting the uptake of BIM, BIM Forum Portugal held its first international conference on 20–21 June 2013, with an impressive panel of speakers who included Paul Morrell, former chief construction adviser to the UK government, Malcolm Taylor from Crossrail and Frank Haase from US contractors Suffolk Construction. There were international case studies and networking opportunities.

‘In a crisis, people start to focus more on the core issues. And BIM is finally seen here as the way forward for controlling costs, achieving better quality and communicating better,’ says Pedro Maló from the research institute, UNINOVA, whose links with bSI go back a long way.

‘We hope that we will be able to rejoin the buildingSMART family before too long.’

## On the fringes of Europe

### BIM practices in Iceland

In October 2008 the Icelandic banking system collapsed and in the wake of the financial crisis, the construction industry was hard hit. Over a period of two years, for example, the unemployment rate among architects was above 60%. In 2009, the Government Construction Contracting Agency (GCCA) and nine other large property developers launched a project known as BIM-Iceland to introduce BIM methodologies into the local construction market. ‘Bad times are the best of times to

re-examine and optimise the use of available resources,’ explains Óskar Valdimarsson, CEO of GCCA. ‘The recession has given the Icelandic construction sector time to acquire new knowledge and skills.’

For this tiny country of 320,000 inhabitants, it would have been an impossible task to develop its own BIM requirements and BIM contract specifications – the translation costs alone are heavy to bear.

So BIM-Iceland brought together 20 volunteers to examine what other countries had achieved so far in the field of BIM and then acquired

permission to use the documents that best fitted local realities in Iceland. The result was a translation of general BIM guidelines from Germany, contractual specifications based on rules and forms from bips (a non-profit AEC organisation in Denmark), and BIM requirements from Statsbygg (the

Norwegian property services agency) and Senate (the Finnish agency).

Not many new construction projects have been started since the financial crisis. But *all* new public projects in Iceland since 2009 have been designed and built in BIM/IFC, covering all the disciplines. Projects include university buildings, a prison, a home for the elderly, an upper grammar (secondary) school building and the new National Hospital with 65,000 sqm of construction (in five buildings), which is now at the preliminary design stage.

In 2010 the Icelandic Green Building Council (IGBC) was set up – a non-profit organisation representing all parts of the construction industry. Since then, a number of green pilots have been developed, aiming for a BREEAM certification: two visitor centres in national parks plus all the projects mentioned above.

‘We are convinced that BIM and BREEAM are helping us to raise the overall quality of construction in public projects, with clear sustainability benefits, and cutting down costs connected to inaccuracy in design and construction,’ concludes Óskar.



*Center for Icelandic Studies, a 6,500sqm building (under construction), was the first BIM/IFC pilot project in Iceland covering all disciplines and was also a pilot project for BREEAM certification*

# News round-up

## Annual Report

The Annual Report 2012 was adopted by the International Council at its meeting in Helsinki in May 2013, and it has been published on the bSI website. The report gives a rounded overview of what buildingSMART is all about, as well as detailing activities in 2012. The document provides a frank and accessible account of bSI and explains in no-nonsense terms the main technical developments, changes in structure and outline plans for the future, allowing a quick and enlightening read.

Download the Annual Report: [www.buildingsmart.org](http://www.buildingsmart.org), under Resources, publications



## Collaboration with ISO on GIS

Cementing the relationship between ISO and bSI, ISO Technical Committee 211 adopted the following resolution in its plenary meeting at the end of May: 'Resolution 632 – ISO/TC 211 appreciates the interest from buildingSMART International, and invites a request for category A liaison'. This has been followed up by a formal request from the TC 211 secretariat.

## Project BIM 2015 in France

The French Ministry of Industry has launched a project to help SMEs across a number of industries to adopt new technology. A total of €300,000 has been allocated to the construction industry for the BIM 2015 project. The project has two main elements. The first is to improve the functionality of BIM by exploring the links between BIM software and the software used in professional activities such as estimation, quantity take-off and invoicing. The other is software certification, where the French-speaking chapter is working with third-party software vendors to explore how a certification scheme might be set up in France. The Fédération Française du Bâtiment (FFB), with its network of local branches, is also participating and the project is looking to involve around 30 SMEs in the sector in France.



## Build Sydney Live

A virtual design competition to create a landmark building in Sydney takes place on 29–31 October 2013. Participating teams, drawn from the global community of BIM practitioners, have 48 hours in which to meet the brief, which is revealed only at the start of the contest. This is the first 'build live' event in Australia and local interest is expected to be high. The event is organised by buildingSMART member Asite, with Nemetschek Vectorworks as headline sponsor.

Visit [www.buildsydneylive.com](http://www.buildsydneylive.com) to find out more

## New officers

Three new officers were elected at the International Council meeting in May. Reijo Hänninen was elected deputy chairman in place of Øivind Rooth who has retired. Nick Tune was elected treasurer in place of Jøns Sjøgren who has also retired. Kjell Ivar Bakkmoen was also confirmed as IUG chair. The other officers were all re-elected.

## BuildingSMART International

### ExCom

Chair: Patrick MacLeamy

Deputy chairs: Reijo Hänninen and Rasso Steinmann

Treasurer: Nick Tune

IUG chair: Kjell Ivar Bakkmoen

ITM chair: Francois Grobler

Members: Alain Maury and Deke Smith

Secretary/business manager: Chris Groome

### Newsletter & communications

Editor: Betzy Dinesen

Designer: Jane Thompson

### Contact points

[francois.grobler@usace.army.mil](mailto:francois.grobler@usace.army.mil) (technical management)

[rasso.steinmann@steinmann-consult.de](mailto:rasso.steinmann@steinmann-consult.de) (implementation and certification)

[tl@aec3.com](mailto:tl@aec3.com) (Thomas Liebich, IFC matters)

[kjell.ivar.bakkmoen@helse-sorost.no](mailto:kjell.ivar.bakkmoen@helse-sorost.no) (user group)

[rogerjgrant@gmail.com](mailto:rogerjgrant@gmail.com) (Product Room and bS Data Dictionary)

[jan@karlshoj.com](mailto:jan@karlshoj.com) (Jan Karlshøj, Process Room and IDM)

[chris.groome@buildingsmart.org](mailto:chris.groome@buildingsmart.org) (Chris Groome, bSI matters generally)

[warwick@drshunt.freeseerve.co.uk](mailto:warwick@drshunt.freeseerve.co.uk) (Warwick Hunt, website matters)

[beryl.garcka@buildingsmart.org](mailto:beryl.garcka@buildingsmart.org) (finance and administration)

[betzy.dinesen@btinternet.com](mailto:betzy.dinesen@btinternet.com) (newsletter)

## Certification success

Vectorworks Architect 2013 completed buildingSMART's rigorous testing process in June to achieve certification, demonstrating support for IFC export, based on Coordination View 2.0. 'This certification is one more step in our commitment to supporting Open BIM workflows for our customers,' said Sean Flaherty, CEO of Nemetschek Vectorworks. And in July, two further products were certified: Tekla Structures Version 19.1 and Autodesk Revit MEP 2013.

