



## Korea summit and beyond New rooms with urgent agendas to launch

The next Standards Summit takes place in Korea during 26–29 September and a busy programme of work is planned. Demand for the IFC standard is visibly increasing, as players in two large sectors ask to have a dedicated room.

Members and officers from chapters around the world will gather on Jeju Island, Korea, in late September. Room leaders have posted their planned schedule of meetings – an indication of the multiple and much-needed projects that are underway. The Building Room plans to have meetings on the BIM guidelines, the IDM configurator, BCF and a series of MVDs that have been put forward. The Infra Room’s expert panels on overall architecture and Alignment 1.1 will meet and progress is expected on the PAS specifications for IFC road and rail.

The Regulatory Room will be holding meetings on automated code checking and e-submissions, while the Product Room will be reviewing some of its own projects, such as terminology tools and IFC in the Data Dictionary. The Technical Room will participate in joint meetings with other rooms as well as holding its own meetings.

### New Construction Room

A new Construction Room will launch at the summit. There is strong support for the new room in the industry but the impetus has come from buildingSMART SAC member Kajima,

one of Japan’s leading contractors with international operations. ‘We already use BIM widely at Kajima,’ says Ken Endo, IT project manager. ‘But there are areas where BIM is not working well enough for contractors.’

The Construction Room will debate its early ambitions at the summit and there is no shortage of candidate projects. One early candidate will be a project to evaluate how the use of BIM improves productivity on-site and how open data exchange standards can help improve practices.

Another will be to look at the most important use cases not yet covered by IFC and to propose new standards. Production systems, artificial intelligence in construction, the Internet of Things and data linkages with non-BIM software all figure in the new room’s ‘to do’ list.

Lean manufacturing and offsite construction is a further area where data exchange needs improvement. The principles of ‘design for manufacture and assembly’ (DfMA) offer better ways of working but at present there is no ability to share data at the earliest stages of the project, making this another priority area for the new room.

new areas for standards  
Internet of Things  
data linkages  
artificial intelligence  
lean manufacturing  
open data exchange standards  
design for manufacture and assembly  
new areas for standards  
open data exchange standards  
on-site productivity  
production systems  
lean manufacturing  
Internet of Things  
data linkages  
artificial intelligence  
Internet of Things



### New Airport Room

Also making a first appearance at a standards summit will be the Airport Room. ‘We need an asset management group for airports,’ says Alex Worp, strategic BIM adviser at ASM Schiphol in the Netherlands, which is the driving force in setting up the new room with support from buildingSMART Benelux. One problem for asset management professionals at airports is the lack of IFC standards for airport-specific assets. On one estimate, the lack of IFC coverage extends to around 30% of a structure or facility.

‘Schiphol Airport wants to show that international airports are front-runners in the integrated approach to asset management for the entire life cycle,’ continues Alex. ‘We want a life-cycle process based on open standards for implementing a BIM-workflow.’

As the groundwork for the new room was done, enthusiasts from Schiphol made contact with their counterparts in other airports and visited Oslo and Aéroports de Paris (ADP). It became clear that much work had been done by individual airport authorities on their own data standards. Underpinning the new Airport Room is the belief that fragmentation can be halted and global standards created.

### Conclusion

Richard Kelly, operations director at bSI, is responsible for the overall running of the standards summit. ‘Looking at the programme, I can see that exciting project work will be going on in Korea,’ he comments. ‘At each new summit, commitment to the buildingSMART ideals appears to strengthen.’

Above right: Jeju Island, Korea

Left: Schiphol airport, Amsterdam



# What do industry professionals think of BIM?

## User group interviews offer insights

What is your proudest achievement? What is the most valuable lesson you have learnt? And what are the core qualities you would look for in a BIM manager? Participants in the buildingSMART 'speed-date' initiative are asked to respond to these and other questions as part of an informal initiative to share user experience. The interviews are being posted on the IUG website as well as on our LinkedIn group and other social media.

To date there have been replies from BIM professionals in Germany, the US and the Middle East.

On the greatest benefits of open BIM, participants cited scalability, interoperability and improved whole-life communication. Proudest achievements were impressively varied: developing the BIM roadmap for Germany, seeing resistance to the new technologies change to enthusiasm, and leading the creation of the US National BIM Standard. BIM managers, they say, should have both people skills and technical excellence, together with strong leadership and a sound education in BIM capabilities.

*'The greatest challenge of open BIM is keeping it open and non-proprietary while keeping it fresh and up to date and supporting practitioners' needs.'* – Deke Smith, standards-setter, author and long-time buildingSMART colleague

*'BIM will transform the construction industry through changes in procurement, contracts and use of data.'* – Ilka May, associate director, Arup

*'Start doing BIM with the end goal in mind. Communicate to other stakeholders about what you are doing and what you have done.'* – Alex Kolpakov, associate director, AECOM

To read the full interviews, visit our LinkedIn group. If you'd like to take part, contact Mark Baldwin ([mark.baldwin@mum.ch](mailto:mark.baldwin@mum.ch)) or Kjell Ivar Bakkmoen ([kjell.ivar.bakkmoen@sykehusbygg.no](mailto:kjell.ivar.bakkmoen@sykehusbygg.no)). Or contact the IUG direct ([iugchair@buildingSMART.org](mailto:iugchair@buildingSMART.org))

Deke Smith



Ilka May



Alex Kolpakov



## Raising practitioner standards Progress on bSI individual certification

Does the global industry need individual BIM certification? In June/July 2016, a small market survey was carried out to find out what people actually think and the role that buildingSMART should play. Significantly, 81% of respondents thought that a BIM competence certification programme was necessary. And 68% of respondents felt that buildingSMART should be involved in the initiative.

These findings support the work that the Compliance programme has been doing to develop a framework that could be adopted by organisations around the world that offer BIM training. 'Our content development to date has concentrated on developing the "learning outcome framework" – or LOF – for the first basic module,' explains Mark Baldwin, individual certification coordinator.

'Looking globally, the quality of BIM training is uneven and buildingSMART approval will provide reassurance,' says Dan Rossiter from BRE and bS UKI and part of the multi-chapter group that has developed the LOF. 'Internationally agreed BIM training would benefit greatly from bS approval, so that the market out there will know that they are buying quality training.'

'The LOF for the basic module is ready for review and approval,' adds Mark. 'We are putting it out for

review among stakeholders.'

The individual certification programme is now gaining speed after a fairly gentle 'off' from the starting blocks. It is expected to offer benefits to both companies and practitioners by ensuring that BIM users are certified to a uniformly high level. It will increase the profile of buildingSMART in the industry and provide a modest revenue stream to bSI.

The next step is to develop website resources which will allow payment and registration of those seeking certification. Technical development of a mechanism to allow online testing and certification will be also

**Should certification be based on the principles of open BIM?  
79% said yes**

**Do we need an individual BIM competence certification programme?  
81% said yes**

needed, although work done by buildingSMART Norway on its online testing tool is expected to serve as a model.

Alongside the technical development, there are the essential administrative activities – coordination with buildingSMART chapters, a legal and accounting framework and so on – together with marketing and communications strategies.

'We have solid work behind us and a strong momentum taking us forward,' concludes Mark. 'Two gold sponsors for the programme have been secured and there is interest from other prospective sponsors. We also seek funding for the upfront development work.'

The market survey comprised five questions and received 161 responses; it was announced through the LinkedIn BIM Experts Group and the bS International User Group.

To find out more about the individual certification programme, contact Mark Baldwin ([mark.baldwin@mum.ch](mailto:mark.baldwin@mum.ch))

## Case study

# The new Royal Adelaide Hospital

The new Royal Adelaide Hospital is the largest construction project in South Australia and will become the country's most advanced healthcare facility. Building information modelling was at the heart of this flagship project.

## Background

Demand for healthcare is rising in South Australia, as the state's population ages and population numbers increase. More facilities are needed, and it was clear that the existing Royal Adelaide Hospital, which dates from the 1960s and 1970s, could not easily be expanded and improved. In 2010, a private-public partnership was formed. In 2011, work began on a brownfield site – the old shunting yard of the main railway station – with a remedial works programme to remove ground contamination. The new hospital is expected to revitalise Adelaide's West End.

## The project

The new Royal Adelaide Hospital (new RAH) was designed according to principles of sustainability, with concern for energy and water efficiency, and taking advantage of natural sunlight. There will be some generation of renewable energy on-site and landscaped green spaces across the precinct. There are 40 operating theatres and all patients will be accommodated in single rooms with ensuites. Inherent flexibility has been built into the design to future-proof the hospital.

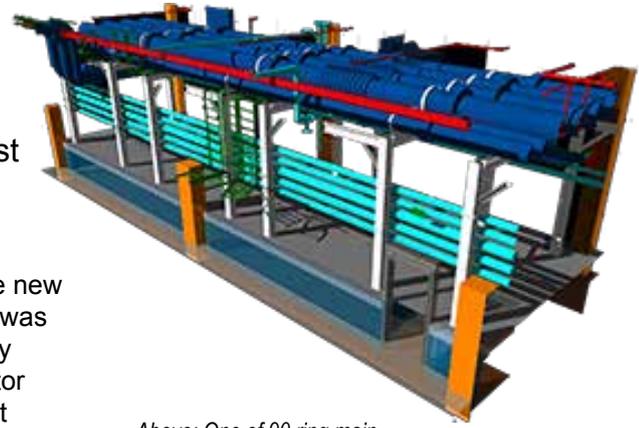
In Australia, the decision to use BIM was at the time triggered more by industry in a bottom-up approach than by the client as a top-down

requirement. In the case of the new RAH, the decision to use BIM was consensus based but driven by the project development director at the time, and the HYLC joint venture recognised that the size and complexity of the project required a fully co-ordinated approach using the latest technology. The project director and representatives of the SA Health Partnership and the State visited hospitals of similar size in the UK, Norway and Sweden.

The main products used in the BIM were Autodesk Revit and Navisworks, with Aconex adopted as the data and document management system. Following the level of detail stages 100 and 200 in 2011 and 2012, the LOD300 stage used OwnCloud, a cloud-based file-sharing system, as a model collaboration tool. Tekla was used by the steelwork subcontractors, so there was a small element of open BIM. The client and the FM provider, Spotless, are now both using BIM360 GLUE during the LOD500 phase to help them understand the handover model and its associated data. As-built data is being captured through Bluebeam software.

BIM was used for multiple purposes during the project, including clash detection, before work began on-site. The project team also used the BIM for construction sequencing.

One highlight was the development of the project's own

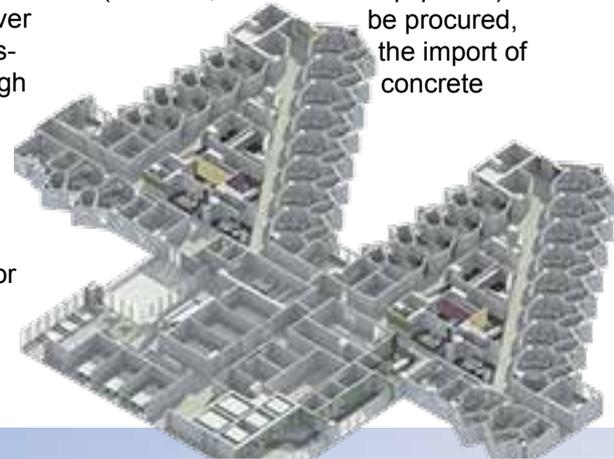


Above: One of 90 ring main modules (each weighing 6+ tonnes)

Below right: Model showing two of the 'pods' which contain in-patient rooms, staff hubs and core support

Below: View of the new RAH looking south across the River Torrens

SPOTNIC system (single point of truth new RAH information system) to link various datasets to objects in the 3D model via the Zuuse software solution. SPOTNIC proved to be an invaluable tool in streamlining the development and operation of design and construction data across the 51-strong team of subcontractors and design consultants. There were numerous benefits, allowing a comparison of the spaces in the design models as against the briefing, a monthly audit of the FFE quantities (furniture, fixtures and equipment) to be procured, the import of concrete



specifications, the production of various schedules of quantities using the modelled objects, and more.

The BIM was accessed on-site through tablets. Initially, high-end iMotion tablets were used to access the federated model and SPOTNIC system remotely.

Workshops were run for the design and construction teams, with technical training on the software systems also given. Smaller subcontractors found themselves on a steep learning curve, but the joint venture introduced them to local bureaus who could provide expert support. Culturally, people in hands-on roles were more open to the new technology than hands-off management, and education and good leadership played an important role in the transition to BIM-style working.

## Outcome

The project is nearing completion and the hospital will open to the public in 2017. How did it benefit from BIM? First, during the design and construction detailing stage, the level of collaboration improved, clashes were detected early and coordination was more transparent. Abstracting area and quantity information from the SPOTNIC information system was hugely valuable, and the use of mobile tablets on-site to check and



Above: Helipad at the western end of the hospital

Below right: Entrance cloisters

Below: North-eastern end of the new RAH

review data is estimated to have reduced rework by 12%. Secondly, the federated model, at LOD500 level, has been handed over to the FM provider and the state for use in asset management. The project has raised BIM awareness right across Australia, and the hope is that it will encourage other clients to understand its importance and mandate it on future projects.

*Thanks to the new Royal Adelaide Hospital and the Hansen Yuncken – Leighton Contractors joint venture for making information available and to Chris Penn, BIM Manager, new RAH, for his invaluable input. Chris is also a board member of buildingSMART Australasia.*



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