ICIS INTEGRATING CONSTRUCTION
INTERNATIONAL CONSTRUCTION INFORMATION SOCIETY

NEWSLETTER

2018 ICIS Congress Cologne, Germany

The 2018 ICIS Delegates Assembly and Congress will be held from Sunday 17 June and finish with the Congress Dinner on the evening of Wednesday 20 June. This year the information sessions have been divided into:

- CLASSIFICATION / STANDARDIZATION
- COST INFORMATION
- PRODUCT INFORMATION
- CONSTRUCTION SPECIFICATIONS
- OPEN TOPICS including Facilities Management; Research Projects; Case Studies etc.; the Future of Construction Information etc
- NATIONAL DIVERSITY IN CONSTRUCTION INDUSTRY including Procurement; Standards; Market; Public/Private etc

The Congress will be held at the Hotel Regency Cologne and hotel bookings should be made as soon as possible to take advantage of the conference rate.

Cologne Cathedral

The foundation stone of the Gothic Cathedral was laid on 15 August 1248 on the celebration of the Assumption of the Virgin Mary. Apparently the Old Cathedral was no longer sufficiently representative to house the mortal remains of the Three Kings, which Archbishop Rainald von Dassel brought back to the cathedral city in 1164 from the conquered city of Milan. These relics made the Cathedral one of the most important pilgrimage destinations in Europe. In the early 16th century, building was stopped - partly due to lack of money, partly due to lack of interest.

At this point the chancel, the lower section of the South Tower with bell tower as well as the long nave and the cross nave were completed up to the lower arcades. The North Tower was almost completely non-existent. For more than 300 years, the city's panorama was dominated by the mighty torso with a huge building crane on the incomplete South Tower.

Around the turn of the 19th century the supporters of the German Romantic movement reawakened public interest in the completion of the Cathedral thanks to their enthusiasm for the Middle Ages. Continuation and completion of the building now became a matter of national interest to the Germans. In 1842 King Friedrich Wilhelm IV laid the foundation stone marking the continuation of building work. The Cathedral was completed in 1880 - in accordance with the plan originating from the Middle Ages - in a record time of just 38 years.

Cost Estimating and BIM

This draft ICIS report is to be discussed at Congress 18 with the expectation that it will be approved for release.

This report seeks to investigate cost estimating systems in general, and how these systems are or can be BIM compatible.

A cost estimate has been defined as the approximation of the costs of the resources needed to complete the project activities. The accuracy will increase during the iterative loops of the planning phase.

Whilst cost estimating is an approximation, cost accounting is cost incurred and assigned to products, services or other objects to evaluate efficiency of cost usage.

BIM Education - 2018 Global Update

At the writing of this Newsletter the fifth annual update of the survey is currently being compiled.

The report aims to summarise the status of BIM education in countries across the globe. It is then hoped that countries can collaborate resulting in BIM skills to be transportable across countries.

The report will be uploaded to www.icis.org and be accessible to all once approved.

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Member Profile

CRB Switzerland

Swiss Research Centre for Rationalization in Building and Civil Engineering (CRB) www.crb.ch

CRB, together with the trade associations and on behalf of the Swiss construction industry, are developing clear standards for the planning, execution and management of buildings. They are well-known for modern and continuously evolved tools and aids in building and underground construction as well as in building technology. The CRB-Standards, that support transparent and legally compliant planning and execution of building projects, are taught in Switzerland through courses and specialist literature.

Communication – facilitating the exchange of information.

Construction projects are successfully realized when all the partners work closely together. For this the various partners in construction, builders, planners, manufacturers, suppliers and entrepreneurs, have to exchange information every day. The CRB tools facilitate this exchange with a uniform system and language.

The Instruments – comprehensive continuous data network.

The construction of the CRB services creates a comprehensive data network. The partners including the building / property managers can directly exchange their data and thus build on their existing knowledge.

President's Column

Collaboration and communication are the most powerful tools for all projects whether the construction of the built environment or otherwise. My work history within both engineering and architecture has shown that a good relationships are much more powerful than contracts and documentation. However, in this more highly competitive and global market some want to play games to gain an advantage rather than focus on the collective better good.

In Australia we have a great collaborative environment and NATSPEC is very proud to be associated with many of them. National organisations such as the Cooperative Research Centre for Low Carbon Living (http://www.lowcarbonlivingcrc.com.au/) , Sustainable Built Environment National Research Centre (http://sbenrc.com.au/), and the Australasian BIM Advisory Board (http://www.abab.net.au/) make our nation stronger through collaboration between Government and industry.

However, without sharing of knowledge globally we will be living in a fools paradise. Our greatest ideas may have already been tested overseas, and discarded for something better. Alternatively, we may only take the knowledge of those that we are in regular contact with, and miss many other opportunities. This is the value of ICIS.

This Newsletter includes information provided by Sweden, France, and the International Construction Project Management Association. Come to Congress18 to hear from representatives from across the globe. The value of ICIS and its Congress is the sharing of ideas and, hopefully, challenging each other with new ideas.

The more you know, the more you know you don't know. (Aristotle)

See you in Cologne,

Richard Choy

Richard Choy at the launch of the Sustainable Built Environment National Research Centre BIM Value Benchmarking Tool.

Post Grenfell

Information provided by Nick Smith, President International Construction Project Management Association http://www.icpma.net/; Richard Choy, NATSPEC Australia; Michel Bohren, CRB Switzerland; Barbora Pospíšilová, ÚRS PRAHA; Christer Finne, RTS Finland; Geir Johansen, Norconsult Norway.

On 14 June, during Congress 17 held in Newcastle UK, West London was thick with smoke as emergency services rushed to the scene of one of the most tragic fires seen in the UK. 72 people are known to have died, a similar number injured, with 223 escaping from the 24-storey tower block.

Grenfell Tower, UK

Grenfell Tower was designed to Parker Morris space standards - higher than comparable private sector dwellings, and construction completed in 1974. A few of these public sector flats were subsequently sold to residents. From 2014 to 2016, Grenfell Tower had GBP 8.7m spent on it, including new cladding, windows and heating systems. The single central stair design impaired residents trying to escape as the tower filled with smoke.

This incident has created an urgent need to address the immediate safety of residents of similar tower blocks, and how to design new ones. Appropriate sprinkler systems, top-rated fire-resistant cladding, insulation and compartmentalisation reduce the spread of fire and decrease the risk of harm to building users. New designs must also have alternative means of escape.

Many older buildings have passed their “use by” dates and are no longer fit for purpose – standards and comprehension of safety needs and risks must be taken into consideration in constructing new buildings and continually maintaining existing ones. Although the UK has yet to enforce major change to legislation, the Grenfell Towers fire has impacted on the legislation in other countries around the world.

In Australia Grenfell was preceded by the Lacrosse building fire in Melbourne where a fire took place in the early hours of the morning of 25th November 2014. This 23-storey mixed-use building includes 15 levels of apartments with approximately 15 apartments per level. The fire was a first in Melbourne, affecting 450 to 500 people who required immediate evacuation and accommodation. The fire spread vertically along the external cladding at the rate of 13 floors within 15 minutes.

Investigations following the Lacrosse fire of 2014 were ongoing, but the Grenfell Tower fire catalysed the pace of change. The Building Ministers’ Forum directed the ABCB to advance actions to improve fire safety in high-rise building – an amendment was made to an out-of-cycle clause in the National Construction Code.

- Evidence of suitability; a new Evidence of Suitability Handbook was added to assist the correct use of the Evidence of Suitability provisions of the NCC.
- Provisions regarding non-combustibility; deemed-to-satisfy amendments were made, to require bonded laminated materials (e.g. aluminium-clad products) to have a non-combustible core.
- A new verification method as part of a performance solution referencing AS 5113 Fire propagation testing and classification of external walls of buildings.
- Referencing the revised sprinkler standard AS 2118 Automatic fire sprinkler systems.

Research on Building Specifications

IIBH has formed a working group of about 15 people, including the Ministry of MITI, researchers, designers, QS and contractors.

The objective is a survey report on details, operation methods and comparison of specification systems in Japan with Master Specifications in western countries. It will consider:

- The current system in Japan and its advantages and disadvantages.
- How specifications will adapt to the spread of BIM in the future.
- The best way of specification for the next generation.

At present necessary research items on specification survey derived from IIBH WG meetings are as follows, and we are studying according to them.

- Necessity of specifications for each work flow from early design to maintenance phase.
- Whether the current specification can correspond to the future BIM system. Also, the conditions of countermeasures taken overseas.
- Comparison of specification system between Japan and Western countries and its background.
- Clarification and analyzation of advantages and disadvantages of Japanese specification system.
- Review specifications corresponding to differences in procurement method.

Regarding the survey of overseas specification systems, feedbacks from ICIS members in each country is essential. We thank you in advance for your cooperation. Kind regards, Sato

Swedish CoClass

CoClass is the new Swedish digital classification system for all built environment, with the potential to radically change construction and maintenance sectors.

CoClass values:

- Digital. Placeholders for digital information.
- Common. Same language and structure for all phases.
- Entire Built Environment.
- Whole lifecycle. Covers planning, programming, design, production, operation, maintenance, and demolition.
- International. Bilingual and based on international standards.
- Future proof. Open structures and flexibility by focus on function.

https://coclass.byggtjanst.se

CEN and CENELEC

The **Global Outreach Report** provides a summary of the key achievements, evolution and trends of the CEN and CENELEC activities with various regional and national standardization organizations outside their membership, including strategic partnerships, technical cooperation and the dissemination of European Standards. ftp://ftp.cencenelec.eu/EN/IntCooperation/Global%20Outreach_report2017.pdf

Notable development in 2017:

- At the end of 2017 most of **the previous foreign partners have transferred to the new Affiliation and Companion Standardization Bodies (CSB) status** of CEN and CENELEC, enjoying extended benefits including the possibility to participate in an unlimited number of CEN and CENELEC Technical Committees. At the end of 2017 CEN and CENELEC had three Affiliates, 15 CEN CSBs and 10 CENELEC CSBs. The remaining Affiliates are included in the “3rd country” category.
- CEN and CENELEC **expanded their cooperation with other regions**, agreeing Memoranda of Understanding with: Eurasian Economic Commission (EEC) and the South Asian Regional Standards Organization (SARSO), with the aim of fostering region to region cooperation and collaboration on areas of common interest.
- **For the first time the Standardization Administration of the People's Republic of China (SAC) has notified the adoption of some 91 European standards in China**. These adoptions further complement the activities undertaken under the CEN, CENELEC and SAC Cooperation Agreement, aiming to remove Technical Barriers to Trade between Europe and one of its most important trading partners.

On a general note, in 2017 some **6112 European standards have been adopted around the world**. Among the most active NSBs/NCs adopting European standards was INS (Moldova) who in 2017 notified the adoption of 3660 ENs, in total having adopted 70% CEN and CENELEC portfolio.

Post Grenfell cont.

In Switzerland material containing polyisocyanurate plastic foam for insulation or polyethylene cores in facades, as used in the Grenfell Tower, is not legal. Any flammable material in buildings taller than 30 metres is also forbidden by law.

Swiss regulations are organised in professional associations that edit and public regulations, and also sit in international regulation bodies. This enables the homogenisation of Swiss and international regulations and a self-regulating market with internal procedures to take legal action against members that do not follow regulations. Established agreements from the ground up minimise risk, rather than action taken only after the damage is done.

Strict regulations regarding fire performance and safety already exist in the Czech Republic, enforced by the Czech Office for Standards, Metrology and Testing and therefore Grenfell did not have a noticeable impact in the Czech Republic. Similarly regulation in Finland and Norway was not affected. On the national level, Finnish enforcement of regulation is the responsibility of the Ministry of the Environment. On the local level, building authorities in respective cities and municipalities are responsible – no private bodies are permitted.

The OECD, in 2014, released its report on Regulatory Enforcements and Inspection.

http://www.oecd.org/gov/regulatory-policy/enforcement-inspections.htm

This report seeks to construct an overarching framework to support initiatives on improving regulatory enforcement through inspections, making them more effective, efficient, less burdensome for those who are inspected and at the same time less resource-demanding for governments. The principles address the design of the policies, institutions and tools to promote effective compliance – and the process of reforming inspection services to achieve results.

The report complements the 2012 Recommendation of the Council on Regulatory Policy and Governance and is intended to assist countries in reforming inspections and developing cross-cutting policies on regulatory enforcement. The principles have an informal non-binding status of a guidance approved at the Regulatory Policy Committee level.

Swissbau 2018

From a CRB point of view, the five days of Swissbau in Basel can be summarized as follows: numerous interesting conversations and meetings in the lounge, promising inputs and contacts, well-attended events and the confirmation that the chosen direction is right.

The 25th edition of Swissbau in Basel was dominated by two topics: the progressive digital transformation of the construction industry and the necessary cooperation. Both were also at the centre of CRB's trade fair presence. As a focus partner, CRB relied on networking and exchange and organized various specialist events. In the CRB Lounge, visitors to the fair were able to find out about the latest developments in digitization, as well as about new standards and current offers.

Knowledge transfer and exchange

The four speakers of the workshop "Efficiency in cost planning in building construction and civil engineering" made it clear that the two element-based construction cost plans eBKP-H and eBKP-T meet the current requirements of building owners, cost planners and planners. Guy Marguet demonstrated how the element-based structure can be used as a reference system from the pre-project to the management, using the example of the Genève Aéroport.

The event, which was jointly organized by CRB and werk, bauen + wohnen and opened by Ludovica Molo, President of the Confederation of Swiss Architects BSA, comes to the following conclusion: It goes without saying that standards and standards are required to ensure security and enable a smooth exchange of data , However, there is scope for enforcing these rules, which can be used.

How the CRB standards can be combined with the BIM model was the subject of the second workshop. Based on a prototype, it was shown that cost-relevant components and their quantities can be selected eBKP-compliant in a 3D model and exported as a "parts list". It was also outlined how structured product templates as well as product data sheets based on them can enable standardized and model-based tenders in the future, and why the product manufacturers also use their skills to structure the digital data in such a way that it becomes machine-readable.

Cooperation

Institute of International Harmonization for Building and Housing (IIBH) is founded in the aim of supporting development of building and housing sector in Japan not only through international harmonization of engineering, system, standards, codes etc but also through international exchange actions such:

Research study of international harmonization of engineering, system, standards, codes etc. of building and housing sector.

Support of bilateral conferences in the building and housing sector.

- *Japan-France Building and Housing Conference*
- *Japan-Germany Conference on Policies for Improving the Environmental Performance of Buildings*
- *Japan-China Building and Housing Conference*
- *Japan-Korea Housing Conference*

EU BIM Taskgroup

The EU BIM Taskgroup (EUBIMTG) *Handbook for the Introduction of Building Information Modelling by the European Public Sector* provides a central reference point for the introduction of Building Information Modelling by the European public sector and aims to equip Government and public sector construction clients with the knowledge to provide the necessary leadership to its industrial supply chain. It is produced by the EUBIMTG which is comprised of public sector clients, infrastructure owners and policy makers from over 20 countries across Europe.

Government policy and public procurement methods are recommended as powerful tools to support this step-change in the sector. Without this top-down leadership, the sector's low and uneven adoption of information technology is likely to continue which would limit its opportunity to significantly improve productivity and value for money. This is especially true within its large and diverse SME sector.

The Handbook is available at http://www.eubim.eu/.

BIM and the process industry

Norconsult's ISY Plant is a collection of tools for transferring 3D data and properties between various 3D tools. These products have an international market since the challenges are largely the same everywhere.

The process industry and construction / infrastructure have different 3D tools and content requirements in their 3D models. ISY Plant transfers 3D data and properties between the various tools, so everyone can work with the tools they normally use.

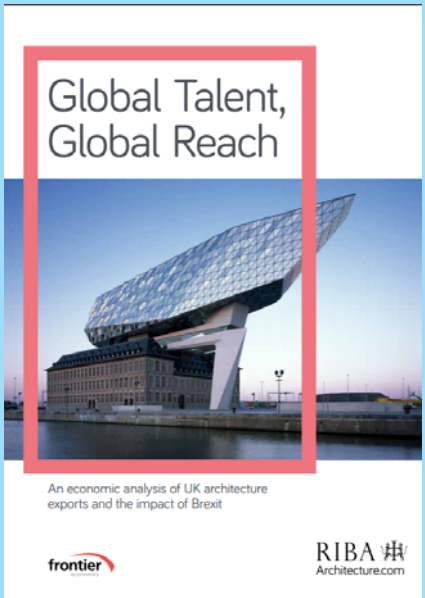
In the process industry, plant design tools are used, and usually with ready-made and complete units and piping systems components selected from catalogues. Construction / infrastructure is more tailored (no building is the same) and the tools are adapted to this.

There are many connections between these industries. A processing plant is usually inside a building. If there are separate specialized contracts, it is often necessary that everyone can see each other's 3D data in order to work as effectively as possible and to avoid errors.

The client often requires one complete model delivered in a specific format when the project is completed. In the Norwegian oil / gas industry this is often AVEVA PDMS.

Brexit

The Royal Institute of British Architects (RIBA) has commissioned Frontier Economics to conduct an economic analysis of how architecture contributes to the UK economy through exports, and estimate the impact on the sector of Brexit.



Standardising BIM Objects

BIM Object standardisation is now achievable with the release of the NATSPEC BIM Object Properties Generator

A new tool that supports the standardisation of BIM Objects across the Australian construction industry is now available. The key issue currently restricting the exchange and interoperability of BIM Objects between disciplines and projects, is the inconsistencies in properties, property naming and object designation.

The Properties Generator resolves this issue. It is an upgraded and extended online version of the NATSPEC BIM Object/Element Matrix that is more powerful and simpler to use. It makes the exchange of information and interoperability of BIM objects possible from project to project and software to software, reducing the huge duplication of effort currently involved.

NATSPEC CEO, Richard Choy, said the Properties Generator will greatly benefit the industry.

“The Properties Generator addresses the major issues concerning information exchange of BIM objects between disciplines and projects.

“The free exchange of standardised information and data will allow different systems and applications to work together. This is crucial to driving productivity across the industry.”

A global approach has been used by including objects based on buildingSMART’s Industry Foundation Classes (IFC), and classification data for major systems such as NATSPEC, UniClass, Omniclass, Masterformat and Uniformat.

Properties can be selected from various sources such as IFC4, IFC 2x3, BIMForum LOD Specification, COBie and NATSPEC. These properties are also categorised by their data type, such as cost, manufacturer and geometric. This allows users greater flexibility in generating the properties that are relevant to them, and to filter these properties to their specific project or object library needs.

Selected properties can then be exported as a PDF or Excel file, from which various file formats can be generated to enable them to be imported into BIM authoring and BIM-ready software applications.

The Properties Generator is suitable for a variety of users including content creators, manufacturers, project teams, and client organisations.

It is anticipated that the Properties Generator will be further developed and enhanced in future releases, including the possibility of adding additional properties as desired by major clients. Refer to the ‘Future Releases’ section on the Properties Generator website for items that could be considered for future additions and upgrades.

Mr Choy hopes that the Properties Generator may continue to evolve and aid growth within the Australian architecture, engineering and construction industry.

“At NATSPEC, we are dedicated to improving the construction quality and productivity of the built environment, so I am pleased this resource is now available. The Properties Generator is committed to promoting best practice, and will continue to develop based on industry use and feedback.

NATSPEC welcomes any comments and feedback that you may have on the Properties Generator. For more information or to use the Properties Generator, visit www.natspec.com.au.

Are you attending Congress 2018?

Attending the ICIS Congress conference plays a key role in our focus on innovation. The conference offers tremendous opportunity to collaborate with colleagues from around the globe and gain valuable insights into new advances in the latest technologies. As the General Manager of A/E Products at AVITRU, networking with knowledgeable and incredibly well-informed representatives from a wide variety of countries and cultures is critical for professional and personal growth.

What I bring back to the office from the ICIS congress helps the Avitru leadership team confirm or adjust our technology focus. As a technology company, there is no substitute for those insights. As more Architectural clients based in the US expand into international markets, an awareness of diverse needs of construction information greatly informs our MasterSpec Guide Specifications development.

For me, attending ICIS Congress is critical when evaluating the validity of early technology initiatives.

Gilles L. Letourneau, AIA, CSI
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