



BIMcert

News

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BIMcert - Developing a comprehensive BIM training and qualification scheme for all levels of the construction supply chain.

CITB NI survey shows that the majority of construction companies plan to implement BIM within the next 3 years

A European survey conducted by BIMcert's industry engagement partner, the Construction Industry Training Board for Northern Ireland (CITB NI), has shown that two thirds of construction companies are planning to implement BIM within the next 3 years, highlighting the increasing need for companies to adopt and invest in BIM technology and processes. Of the two thirds, almost one third aim to implement BIM within the next twelve months. Findings of the survey also showed that the full value of BIM is underestimated by many companies, with the long-term benefits to sustainability and near zero carbon buildings, and the associated cost savings overlooked when considering the key benefits of BIM.

Barry Neilson, Chief Executive at CITB NI, who leads on the BIMcert's State of the Art work package said:

"Our survey has shown that companies have still not fully understood the full extent of the benefits of BIM, despite the clear intention by the majority of companies to implement BIM within the next 3 years. The value of BIM was noted by survey respondents principally during the design and build stage, where many obvious benefits are known around streamlined and coordinated

communication and improved collaboration between teams, and the associated savings to time and money. A dip however was noticed in respondents recognising the long-term benefits to sustainability and energy efficiency and these long-term savings."



From left: Paul McCormack, Belfast Met, Niall Doyle & Eamonn McDonnell, O'Hare McGovern Ltd with Barry Neilson, CITB NI, pictured at Queen's University Belfast's new School of Biological Sciences, a BIM project currently being completed by OHMG



The CITB NI BIM survey was conducted as part of the first stage of the €1.25 million EU Horizon 2020 Research and Innovation-funded BIMcert project, which was conducted in the 5 project partner countries of the UK, Ireland, Portugal, Macedonia and Croatia. Barry Neilson added:

“One possibility for this finding could be the drivers and tactics employed to promote and encourage the adoption of BIM. While energy efficiency and better management of the built environment are obvious benefits, client bodies including government seem to remain focused on the design and construction savings, and less so on promoting better buildings to bring long-term carbon reduction and cost savings.”

The BIMcert project which brings together 7 European academic and consulting institutions from across Europe aims to provide a comprehensive BIM training and qualification scheme for all levels of the construction supply chain. With the priority on developing an industry-led qualification scheme, CITB’s role has been to engage with the construction sector through a comprehensive survey and series of workshops, so as to determine the awareness levels of BIM and the perceptions around BIM, to enable the development of an appropriate upskilling framework. The aim is also to attempt to quantify the impact of upskilling, in terms of the value of projects that could benefit from the efficiencies of implementing BIM.

Martin Lennon, Managing Director of O’Hare McGovern, who are increasingly implementing BIM projects, commented:

“We are currently delivering one of Northern Ireland’s largest BIM Level 2 projects for Queen’s University Belfast, namely the School of Biological Sciences. The project strengthens our previous BIM experience with the University on their multi award winning Wellcome-Wolfson Institute for Experimental Medicine & Computer Science Building. We are also currently engaging with a 3rd party provider for BIM level 2 company certification to further our commitment to BIM and its emerging technologies to continue to be at the forefront of the construction industry.”

Paul McCormack, Innovation Manager at Belfast Met and BIMcert Project Manager, commented:

“The CITB survey and subsequent reports on their industry engagement will underpin the development of the BIMcert training and qualification scheme. BIMcert plans to develop a framework of ‘bite-sized’ learning modules for all levels, which will enable individuals to upskill from any starting point. The survey has highlighted that the intention to undertake BIM training is strong across all countries. The survey also showed that 60% of companies are showing a preference for recruiting staff with BIM knowledge or qualifications, highlighting a growing demand for BIM training in the sector. In terms of training delivery, over half of respondents indicated they would prefer a person-led course with practical demonstrations, while the remaining would prefer forms of online training. This feedback indicates a need for a blended learning approach, with the need for any training to be underpinned by practical ‘coached’ skills.”

IECE Macedonia’s paper on Energy Efficiency accepted by International Symposium

IECE are delighted to announce that their paper on the ‘Application of BIM for improvement of energy efficiency throughout complete life cycle of buildings’ has been accepted by the committee of the International Symposium ‘Energetics 2018, and will be presented during the conference in October. IECE is a scientific, research and educational institute in Skopje, Macedonia, and they will lead on Work Package 5 of the BIMcert project, which involves the development of training models and tools.

There is a growing interest within the construction industry in Macedonia for the adoption of BIMcert. IECE has been invited to participate in the kick off meeting of the project TRAINEE, which is led by the Engineering Institution of Macedonia. The main theme of the Trainee project is reducing gaps between designed and achieved performances of buildings, and Dijana Likar of IECE is pleased that the project leader has expressed interest in collaboration between the two projects.

Macedonian Chamber of Certified Architects and Engineers, and the Macedonian Chamber of Economy, have also expressed interest in learning about the BIMcert program and wish to work together in joint communication activities.



Dijana Likar of IECE presenting at CITB’s industry engagement workshop in Macedonia

Future Analytics Consulting present on BIMcert at National Construction Summit

FAC Managing Director, Professor William Hynes, presented on BIMcert at the recent National Construction Summit in Dublin. Future Analytics Consulting are responsible for Work Package 6 of the BIMcert project. This involves the trials, review and testing of the project outputs. FAC partner with Belfast Met, DIT and other leading European agencies on this €1.25M Horizon 2020 grant to develop a BIMcert training model and toolkit. Building Information Modelling has become an essential requirement in the built environment, particularly given its rich potential to facilitate and maintain a greener construction process. All relevant information is created and managed through the lifecycle of a construction project with digital and virtual reality technology used to provide information on every aspect of the project – from design to installation.

Europe's aim is renewable energy will represent 20% of energy production by 2020; a reduction of greenhouse gas emissions by 20% and the reduction of CO2 emissions by 80-90% by 2050 (Zeiler et al, 2012). This calls for a more coordinated approach in order to enhance collaboration and other skills in the industry, which will reduce waste, inefficiencies across the supply chain, and improve overall management. BIM incorporates better, more suitable and more sustainable design choices and decision making as required by the EE14 Construction Skills Call. Governments globally have identified Building Information Modelling (BIM) as one of the core multidisciplinary, collaborative processes that enables creation and control of the built environment for better conservation of materials, resulting in lower embedded and ongoing energy consumption (delivery of at least 30% reduction in carbon,



Professor William Hynes of FAC presenting at the National Construction Summit in Dublin.

while becoming an economic booster by achieving considerable savings in cost, time, and exports).

The BIMcert project will develop a blended, fully supported suite of Building Information Modelling tools, which will allow geographically dispersed construction project teams utilise technology to enhance information exchange and collaboration. The project will have a particular focus on testing the BIM approaches to green and passive building design to contribute to the improvement of energy efficiency.

BIMcert Partners hosted a workshop on the day at the City West Hotel where barriers to BIM in the Irish context were discussed. The groups also discussed the greatest potential for BIM in Ireland and Europe in general with regards to energy efficiency, cost savings, and an all round better build.

DIT- Leading on concepts and methodologies for BIMcert

Dublin Institute of Technology are responsible for Work Package 4 of the EU Horizon 2020 Energy BIMCert project. This involves the development of methods and procedures to enable the training of diversely skilled personnel in the broad range of concepts required to maximise their learning capacity within the BIMcert training program.

The first step in delivering this objective involved a critical review of the most common and advantageous BIM delivery mechanisms that are been used to roll out BIM programmes throughout the world. This investigation provided an understanding of the eclectic types of BIM courses on offer around the globe, both class room based and online. The results of this report were discussed at the 2nd BIMCert partners meeting held in Zagreb in June. The next stage involved the cross referencing of the results from this exercise with the findings from the BIMCert Survey. The general consensus was that the most sought

after teaching practice should involve a scaffolded learning environment which would enable a more supervised and progressive learning structure for the student until they feel comfortable to advance to the next level. This should be delivered primarily through a series of instructor led live lectures, to be complimented through Problem Based Learning, Design For Disassembly and self-guided learning which will create the active learning environment sought by the survey participants. The results from the reports and survey helped to stimulate a number of further suggestions from the BIMCert Team which has ultimately resulted in the production of a rolling matrix of concepts and methadologies that can be used to deliver the final curriculum. Moving forward, DIT will work with the BIMCert consortium to help set the curriculum that will best achieve the needs of the industry.

New Belfast Met BIM qualification developed with Creagh Concrete

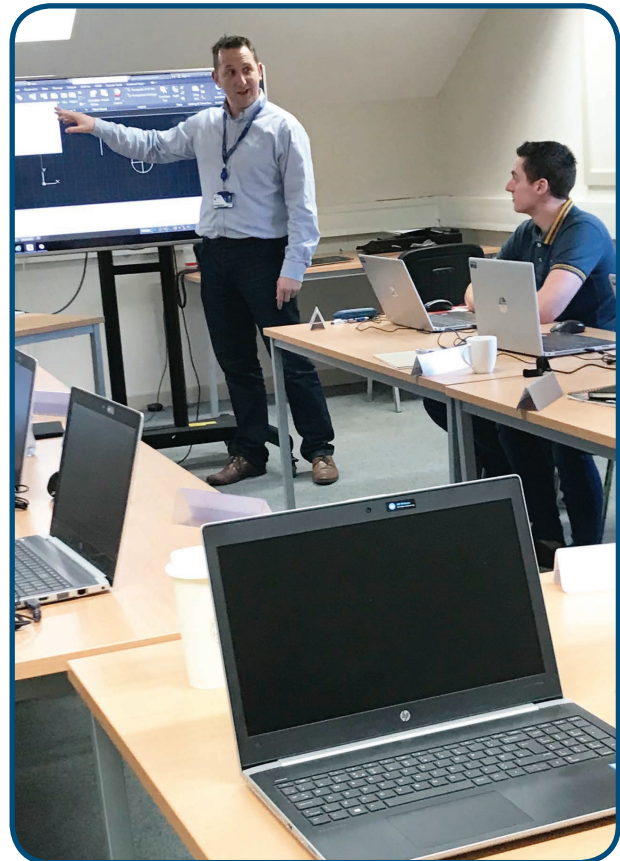
Belfast Met have developed the first of their BIM qualifications in partnership with leading Northern Ireland construction company Creagh Concrete.

Belfast Met are now delivering a trial Level 4 EQF equivalent qualification with Creagh Concrete. Creagh are one of the industry partners in the BIMcert project advising on industry needs and expectations. They are also providing technical support, and are testing the training that the project is developing. Creagh sought to develop a BIM academy to enable the upskilling of their staff as they transition to a BIM workflow within the company. For Creagh Concrete a company established in 1976 and one of the most innovative producers of concrete products, BIM is a must have in 2018.

Lorna Mc Mullan, Director, Creagh Concrete acknowledged the importance of the BIM Academy saying: "In 2015 Creagh Concrete recognised that BIM modelling would represent an improved technology and process change which would add real value to our business. Creagh made a commitment to implement BIM within our company and focus on upskilling our existing staff."

The UK government Construction Strategy 2016-2020 reinforces BIM as an integral focus of the strategy with a aim of boosting productivity and collaboration through the use of technology, (digital construction). BIM enables the digital construction of a project in the form of a construction data enriched 3D model based process. This enables improved collaboration between all parties. The learner gets an understanding in the practice of 3D modelling for building information modelling. This includes architectural, structural, mechanical and electrical work. Lorna Mc Mullan added: "Having developed a new qualification for CAD Construction Detailing with the Construction and the Built Environment curriculum area in 2015, Creagh have established a strong working partnership with Belfast Metropolitan College. The CAD Academy launched in 2016 and has been a very positive step to reducing the current technical skills gap within our industry.

"Based on the reputation and performance of this academy, Creagh sought to develop a similar BIM academy to enable



Andrew Hamilton, Lecturer at Belfast Met, delivering the Creagh BIM Academy at Creagh Concrete

the upskilling of their existing staff as they transition to a BIM workflow within the company. Creagh Concrete have established a strong partnership with Belfast Met and offer our staff the opportunity to gain a qualification in BIM. This will further assist the integration of BIM workflows with the company's supply and installation projects across the UK and Ireland."

Creagh Concrete a company 42 years in existence have embraced the fact that BIM is a key emerging technology within the construction industry, with rapidly expanding usage across the sector.

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