

## Leveraging Commercial Advantage by Securing BIM Certification

### Background

The National BIM Council (NBC) of Ireland Roadmap to Digital Transition for Ireland Construction Industry 2018 – 2021 seeks to increase efficiency and the productivity within the industry. One of the key recommendations within the Roadmap (see Figure 1) was to specify training, educational, and certification initiatives to support the government BIM mandate. The Roadmap suggested that Government, the National Standards Authority of Ireland (NSAI), and other recognised Institutes, develop industry training and certification programmes. In response, the National Standards Authority of Ireland (NSAI) have now developed a BIM certification programme. This is aligned with the publication of IS EN ISO 19650 parts 1 (Concepts and principles) and 2 (Delivery phase of assets) by ISO, which provides an internationally recognised standard for BIM.

### NSAI and BRE Certification

The NSAI will offer third-party certification to IS EN ISO 19650 part 2. Several pilot audits have been undertaken with organisations who have adopted BIM in their practice and or construction activity. An extensive ‘BIM Self-Assessment Questionnaire Checklist’ has been completed based on learnings at the pilot stage and also includes comments from members of the NSAI BIM industry-based standards committee.

The certifications scheme is offered to three main categories of organisations: Employers, Designers, and Contractors. All applicants must be able to demonstrate that they comply with the appropriate duties and responsibilities for their activities as set out in ISO 19650. An Organisation may apply for one, two, or all three roles providing they can demonstrate application as appropriate. The audit process will broadly follow other similar management system certifications with a stage 1 and 2 registration process followed by annual surveillance and three-year reassessment. The NSAI team have completed auditor exam-based training primarily provided by the Building Research Establishment (BRE).

BRE is a world leading, multi-disciplinary, building science centre with a mission to improve buildings and infrastructure, through research and knowledge generation. They have developed a certification pathway scheme that offers individual BIM certification, which is continually validated through ongoing appropriate BIM training criteria and third-party assessment through a combination of audit and CPD requirements. On completion of the initial BIM Level 2 Essentials training (Classroom or online), one can advance to the BIM Level 2 for Information Managers courses. BRE also offer certification to

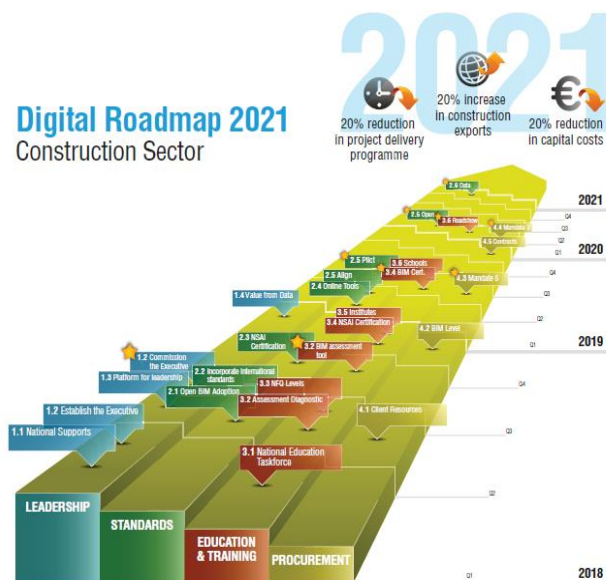


Figure 1: Roadmap to Digital Transition for Ireland Construction Industry 2018 – 2021

organisations through their BIM Level 2 Business Systems Certification which assesses business capability to utilise advanced 3D modelling tools and having the standards, methods, procedures, skilled staff and infrastructure in place to meet the requirements of PAS 1192-2:2013 and section 4.2 table 8 of the PAS 91:2013 prequalification questionnaire document. The benefits of company certification are that it removes the requirement for the employer to carry out a BIM capability assessment, as demonstrating compliance with PAS 1192-2:2013. It also speeds up the tendering process, saving businesses time and money while helping a company stand out from the competition. One such company that has gained BIM Level 2 Business Systems Certification is RPS.

## **RPS BIM Level 2 Business Systems Certification Journey**

RPS is an international consultancy providing advice on the development of land, infrastructure, natural resources, environmental management and health and safety with over 5600 employees located in over 125 countries worldwide. RPS are committed to developing the systems, skills, and expertise to make them market leaders by utilising the most up-to-date software, technology, and computer-aided design capabilities. The BRE Global BIM Level 2 Business Systems Certification scheme and the GMIT Higher Diploma in Engineering in BIM were integral to the delivery of RPS Company Strategy.

The BRE Global BIM Level 2 Business Systems Certification scheme required initially the completion of an online application, followed by a desktop assessment that is carried out to assure that companies provide evidence that the policies and procedures are in place to deliver BIM Level 2. This is followed by on-site audits to confirm compliance. RPS found that this process provided clarity and ensured the company was making the necessary changes within their organisation to meet Level 2 BIM requirements. The certification process has provided the focus required to implement the required system changes across the multi-disciplinary

nature of their business. Throughout the process, BRE Global was available to help provide guidance, which enabled a positive and rewarding experience for RPS.

*“Our Galway office was initially awarded BIM Level 2 Business Systems Certification by BRE Global in 2015. This accreditation was extended to our Dublin and Cork offices in 2018 following a successful audit process. It was a huge achievement for RPS to have demonstrated to BRE Global that we have the systems and expertise across our Irish offices to design major building and infrastructure projects in Level 2 BIM for our wide range of clients,”* says Mark Costello Director BIM and Technical Services RPS.

Having completed the certification process, RPS now have the systems in place to deliver projects faster, more economically, and with reduced environmental impact.

*“Updating our digital technology skills is a continuous journey, but we have already met our accreditation targets which now allow us to compete in very competitive markets across varied project portfolios,”* he concludes.

## **Preparing for BIM Certification**

C+W O’Brien Architects is one of Ireland’s leading, award-winning architectural practices. They have over 35 years of professional experience with cutting edge technologies that have helped in producing design solutions that enhance the built environment. They are now at a stage where they deliver all projects via BIM processes and technologies to a level which is best suited to their clients’ needs.

When the company opened its Dublin Office it initially had the desire to implement BIM and use this as a test bed for their international offices. This was fully supported by their Managing Director, who wanted to explore new and more efficient workflows. As the most recent office in the group to open, Dublin was in a position to provide an environment that could react to these new workflows while recording

lessons learned. This, along with the current rapid growth in the office, provided a dynamic testing ground for proposed Standards, Methods, and Procedures. The company was also updating its Quality Assessment procedures so decided to explore certification in the form of Lloyds BIM Level 2 accreditation scheme. An initial gap analysis performed by the Lloyds Team helped identify barriers and highlight gaps regarding applicable standards and scheme principles. The gap analysis helped to establish the required resources that would need to be sourced if Level 2 BIM certification was to be gained. After this assessment, a steering group was formed that met monthly. The Group set about mapping initial workflows and then exploring how BIM could improve on these. The Group developed standardised templates and implemented them within the Dublin Office first. BIM tasks and upskilling requirements were split amongst staff to get everyone involved. Events such as “Bring your own BIM” were promoted which involved someone initially volunteering to cover a specific BIM topic and then presenting it to a Group.

While resistance to change and issues with technology were common at the beginning, the right resources were allocated to overcome these. Resources, both personal and hardware focused were also acquired to enhance and reinforce the existing expertise within the organisation. The company decided in 2018 to place a hold on Level 2 accreditation. This was to allow for more clarification on the requirement of ISO 19650 (which was on the verge of implantation) and permitted a more managed implementation and change over to the new systems. C+W O’Brien Architects have positioned themselves firmly to react once the preferred certification scheme is in place and is available to the market.

## **BIM Supporters**

TNO is an independent Dutch research organisation that connects people and knowledge to create innovations that boost the competitive strength of industry and the well-being of society in a sustainable way. While recognising the importance of

certification, they also voice the requirement for an organisation to seek value outside of standardised workflows. With the continued evolution of software, it enables new and innovative ways of doing business that an organisation can use to their advantage. To this effect, they have created a free online set of assessment tools under the BIM Supporters initiative.

BIM Supporters is a spin-off company that holds a license agreement with TNO. BIM Supporters is focused on educating the industry and has a responsibility to guarantee the quality of certified consultants worldwide. To achieve this, they use tools such as the BIM Quickscan® which measures the level of BIM in one's organisation. It provides valuable insights and guidelines to improve one's BIM level based on data instead of opinions. As illustrated in Figure 2, one can then compare their results with others in the industry or different countries. The BIM Execution Plan generator analyses the preferred way of working of each project partner. The tool identifies preferred ways of working, competencies, available tools, and data-structures to map the optimal way of collaboration for a project. The BIM Secrets e-Course module brings tangible and practical insight into BIM Topics. This online BIM course explains all the abbreviations and other data terms.



Figure 2: BIM Quickscan® Process

On completion of the BIM Quickscan, the results can be certified by a consultant and can be published via a public link. A certified consultant can be hired in helping to place the outcome in the right context; answers questions and support the follow-up roadmap to improve BIM Level in the right direction.

BIM Supporters recognises that it's not about being at the highest BIM Level as possible but about operating at the BIM Level that fits your organisation best, which depends on the type of organisation that you are, and the type of work you do.

## Conclusion

As the Irish Construction Industry continues to advance on their digital journey, the importance of certification will become paramount. The request as part of the Roadmap to standardised BIM workflows shows the value that has been placed on certification. While certification will no doubt further an organisations business opportunity, there will always be methods of improving on existing workflows. The application of digital assessment tools such as the BIM Supporters suite of tools can assist in furthering the digital journey for companies. These tools, along with ongoing monitoring and assessment from certification bodies such as NSAI and BRE, can ensure a prolonged and rewarding BIM journey for both individuals and companies.

## Acknowledgments and Sources

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## Acknowledgments

Geraldine Larkin (NSAI), John Whyte ( BRE), Mark Costello (RPS), Calogero Marino and William Power (C + W O'Brien Architects) and Leon Van Berlo (TNO / BIM Supporters)

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**Published:** June 2019