

On behalf of the Office of Government Procurement who is co-ordinating this consultation process we thank you for taking the time to participate in this consultation on the development of a BIM Adoption Strategy for the Public Sector.

Please note that all responses received by the Office of Government Procurement will be published within one month of the deadline for receipt stated below.

Fields highlighted in yellow with bold text indicate a mandatory response, all others are at the discretion of the respondent. If mandatory fields are not completed the response may not be considered.

Responses to be emailed to [publicworkscontractsreview@per.gov.ie](mailto:publicworkscontractsreview@per.gov.ie) by close of business on **Thursday, 13 April 2017**.

### SECTION A – Respondent’s details

Name:	Dublin Institute of Technology, College of Engineering & Built Environment
Select the sector title that best describes your area of work:	Other Educator of all of the above
Indicate whether the views expressed are those of a business, organisation or are in a personal capacity:	Organisation The College of Engineering & Built Environment employs approximately 400 staff and has annual student numbers, across full- and part-time provision of approximately 8000
Do you work in the public or private sector?	Other Both: Although the staff of the institute are Public Sector, most of our students already work or will work in the Private Sector. A portion of students also currently work in or will work in the Public Sector.

### SECTION B – Response to structured questions

<b>Q1.</b>	<b>Does your organisation already have BIM policies/protocols/procedures?</b>
<p>Yes, the College implemented a BIM Strategy in 2012 and it is currently being revised and implemented.</p> <p>This strategy includes College positions on:</p> <ol style="list-style-type: none"> <li>1. Undergraduate and postgraduate teaching, both discipline-specific and collaborative;</li> <li>2. Staff and student research at MPhil, PhD, and Post-Doctoral Levels;</li> <li>3. Utilisation of BIM information from DIT's Grangegorman project.</li> </ol>	

<b>Q2.</b>	<b>Has your organisation invested in BIM software?</b>
<p>Yes, we utilise a broad range of software appropriate to individual disciplines and to collaboration. DIT is supported by software providers such as Autodesk, Asite, Leica Geosystems, Topcon Positioning Ltd. and Solibri for provision of free BIM software to students and for use in teaching &amp; research activities.</p> <p>DIT also purchases educational licenses for a range of other BIM software including Bentley, Exactl CostX, and Integrated Environmental Systems (IES).</p>	
<b>Q3.</b>	<b>Has your organisation a dedicated BIM manager?</b>
N/A	
<b>Q4.</b>	<b>Please outline the obstacles that exist to the successful adoption of BIM in your own organisation</b>
<p>Resourcing: the embargos of recent years mean that all staff are teaching to the maximum capacity and there has been insufficient flexibility in timetabling to facilitate a programme of co-ordinated staff upskilling. Irrespective of this, many staff have independently upskilled both through formal further education, including undertaking PhD studies, and self-directed activities.</p> <p>Programme Capacity: the curriculum of all of our programmes is very full with content that is approved by our internal validation procedures and by the accreditations of relevant professional bodies. Making curriculum space for and time to deliver BIM, particularly the collaborative elements, is challenging but is being addressed in the College BIM Strategy.</p> <p>The absence of guidance, adoption of standards or a specific mandate from Government on the implementation and usage of BIM makes it difficult to prioritise relative to other demands.</p>	
<b>Q5.</b>	<b>Please outline the obstacles that exist to the successful adoption of BIM in the construction sector</b>
<p>As above plus:</p> <ol style="list-style-type: none"> <li>1. lack of in-depth understanding that BIM is more than just 3D modelling software and that its processes have benefits across the full supply chain</li> <li>2. government and other forms of contract do not support each client or client representative engagement</li> <li>3. the cost of initial investment in software, education and change in practice is seen as prohibitive and there is insufficient evidence of return on investment for practitioners at all points along the supply chain</li> <li>4. clients, including government, are either not specifying BIM or are insufficiently knowledgeable to create detailed and correct Information Requirements</li> </ol>	

**SECTION C – Response to Position Paper** – respondents may wish to provide the response to this section in a separate document, this should be attached with this response and sent to the email address above.

## 2.1 Benefits

The bullet point "a valuable information asset to manage the performance and maintenance of the completed facility" is neither entirely correct nor strong enough.

BIM is not an asset in itself; it is a process and set of technologies enabling better asset provision and management for that asset's full lifecycle.

The benefit is that when BIM is implemented as a full life-cycle process, enabled by continuously updated geometric (model) and non-graphical (spatially referenced) information, it will support ongoing operational benefits: both day-to-day performance (including in support of carbon-emission targets) and maintenance of the asset, and repurposing / improvement of the asset.

### Section 3

#### Table 1

An Bord Pleanála, the Local Authorities and Tailte Éireann's three constituent state agencies, Ordnance Survey Ireland (OSi), the Property Registration Authority of Ireland (PRA) and the Valuation Office (VO), must also be included in the roadmap because their functions are fundamentally linked to GCCC procurement activities and their processes, e.g. the Planning Application system, must align on the same timescale and not in catch-up mode.

For the items shown in Table 1 as requiring only Level 1, the table must also show when these Bands will mandate level 2 BIM.

While some Department of Agriculture and Marine works may only have straightforward operation and maintenance regimes, they would still benefit from level 2 BIM. For instance, coastal defence works might require frequent upgrading in response to natural events, etc. and the maintenance of an up-to-date BIM model and information set would reduce the requirement for expensive resurvey and redesign.

#### Note 1

The definition of Levels 1 and 2 in the Strategy need to include comprehensive details on or adoption of international / professional body standards on levels of development, detail and information.

#### Throughout: Education, Training & Upskilling

While the consultation paper makes a number of references to training and upskilling, education has not been mentioned.

This is a significant omission because the type and depth of knowledge and understanding required by industry and by Government, through its Departments and Agencies, to enable a "properly implemented" BIM strategy requires deep learning through education. Training can provide the required software skills but a full understanding of BIM requires reflection and facilitated interaction of the type that educational institutions are expert at enabling.

With education, learners are enabled to assimilate knowledge from a diverse range of sources and to synthesise diverse ideas for better outcomes. The consultation paper mentions that foreign and indigenous investors have placed BIM on their "wish list"; these investors also require implementation of Lean Construction and they must also be facilitated in meeting their nZEB requirements. Synthesised education of construction professionals, both at undergraduate and postgraduate levels, in BIM, Lean and nZEB will enable better implementation of the GCCC BIM adoption strategy for public procurement and it will have a positive and widespread impact on the

private sector, thus improving the Ireland's competitiveness for attracting investment and for the export of construction services.

As noted in the document, the collaborative construct of level 2 BIM requires a change in workpractices and poor implementation of such change risks significant disruption. An educational setting is the best, most risk-free location for testing new work flows, processes and practices. Professionals from different backgrounds, including between Government & its agents and industry, can interact within the educational safe space and learn how to effectively implement the requirements of a BIM adoption strategy in the procurement of public works projects. Financial support for education, as well as for training, needs to be included in the strategy.

Academic research is also required around the impact of strategy implementation at all levels of the construction supply chain, as well as the development of a roadmap for future implementation (beyond the Construction 2020 and current Future Skills Needs roadmaps). Individual sub-sectors within construction, in Government and its agencies, and even in individual companies will require applied research to maximise the benefits of implement of the strategy. This needs to be mentioned and recognised within the strategy. Financial support for this activity needs to be made available, perhaps through expansion of the joint Department of Education & Skills and Department of Public Reform proposed Exchequer-Employer Investment Mechanicsm currently under consultation (<http://www.education.ie/en/Press-Events/Press-Releases/2017-Press-Releases/PR2017-03-10.html>).

#### Section 3.4

The oversight body should also include representation from the educational institutions charged with providing instruction to full- and part-time, undergraduate and postgraduate students to ensure that the pipeline of appropriately-skilled construction professionals is maintained and does not become a barrier to successful implmentation of the strategy.

#### Section 3.1 Government Mandate

The adoption of ISO standards around BIM within the strategy is essential for successful implementation. It will facilitate freedom of movement of construction-related professionals and services into and out of Ireland. This is essential to the economy.

To support this, the Government should replicate the successful practice of the UK Government who, via the UK BIM Task Group, by making the relevant standards freely available to everyone in the sector through sponsorship.

The resources and support made available through the UK BIM Task Group (<http://www.bimtaskgroup.org/>) should be adopted, where possible, or adapted and mandated for the Irish market.

Joint sponsorship of the mandate and an associated BIM Champion to become its advocate and enforcer should be undertaken by Government and industry.

Topic 6 (limited to 3000 characters)

Topic 7 (limited to 3000 characters)

Topic 8 (limited to 3000 characters)

Topic 9 (limited to 3000 characters)

Topic 10 (limited to 3000 characters)