Office of Government Procurement
OGP Headquarters
3A Mayor Street Upper
Dublin 1
D01 PF72

13th April 2017

To Whom it may concern,

CitA welcomes the positional paper along with the proposed establishment of an "oversight body". As secretariat of the National BIM Council, CitA would see the alignment of such an "oversight body" with the National BIM Council as beneficial to the delivery of a National BIM Roadmap. The creation of this oversight body will be another BIM group in a complex network of representative BIM groupings in Ireland. Consideration should be given to the unification of appropriate groups similar to the UK BIM Task Group. CitA would welcome the opportunity to participate in this oversight group as it has considerable expertise and knowledge in the arena of BIM both nationally and internationally.

CitA conducted a survey of its database based on a template issued by the OGP in response to the recent GCCC position paper. A report on the survey results is attached.

The Construction IT Alliance (CitA) is a not-for-profit organisation that provides industry with research and support, for the adoption of digital Information and Communication Technologies in construction in Ireland, to help improve productivity, skills and competitive capacity, on behalf of its member companies.

As an example of what CitA does, in relation to the adoption of BIM, CitA has provided monthly breakfast events, annual conferences and technology challenges for the last 5 years, with top quality speakers from around the world. These events have become an important networking opportunity for companies in construction, to develop business relationships with like-minded people, and advance the use of technology in construction. CitA has established a regional network of events in 9 locations across Ireland while also more recently being appointed as research partner for the Enterprise Ireland BIM Innovation Capability Programme (BICP) along with the secretariat position of the newly formed National BIM Council. CitA also runs a Construction Specific Training Network, CitA Skillnet.

Kind regards

Suzanne Purcell
General Manager

Response to GCCC Position Paper

A Public Sector BIM Adoption Strategy	CPP 01/17

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 by close of business on **Thursday, 13 April 2017**.

SECTION A – Respondent's details

Name:	Construction IT Alliance spurcell@cita.ie
Select the sector title that best describes your area of work:	Other Irish Not-for-Profit Organisation focusing on Digitisation in Construction Industry.
Indicate whether the views expressed are those of a business, organisation or are in a personal capacity:	Business The views expressed are those of a cross-section of 27 member organisations of the Alliance. 63% of responses were made in a personal capacity.
Do you work in the public or private sector?	Other The Alliance has both public and private sector members.

SECTION B – Response to structured questions

Q1.	**Does your organisation already have BIM policies/protocols/procedures?**
	63% of respondents reported they already have BIM policies/protocols/procedures.
Q2.	**Has your organisation invested in BIM software?**
	90% of respondents reported they had invested in BIM software.
Q3.	**Has your organisation a dedicated BIM manager?**
	41% of respondents reported to employ a BIM manager.
Q4.	**Please outline the obstacles that exist to the successful adoption of BIM in your own organisation**

Response to GCCC Position Paper

A Public Sector BIM Adoption Strategy	CPP 01/17

The key obstacles identified by respondents included:

- Lack of BIM projects and client requirements for BIM
- Ability to recruit BIM managers
- Cost of hardware, software and training
- Cultural change in the industry
- Lack of BIM capability in the sector
- Availability of BIM graduates
- Quality of BIM design data

Q5.	Please outline the obstacles that exist to the successful adoption of BIM in the construction sector

The key obstacles identified by respondents included:

- Lack of desire to change

- Absence of agreed standards or adoption of international standards

- Lack of guidelines in Ireland to the practical adoption of BIM

- Absence of a central representable driver for BIM in Ireland

- Inconsistency of client requirements

- No adaption of Irish contracts to work with BIM

- Lack of BIM expertise in Ireland across the supply chain

- Implementation costs

- Nature of standard professional appointments not suited to working with BIM ie work stages are not aligned with BIM processes

- Reluctance of companies to share model information

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.

Statement of Intent

The CitA board are delighted to see this strategy and welcome its aspirations.

Oversight Body

CitA welcomes the establishment of an "oversight body" and as secretariat of the National BIM Council would see the alignment of such an "oversight body" with the National BIM Council as beneficial to the delivery of a National BIM Roadmap.

 The creation of this oversight body will be another BIM group in a complex network of representative BIM groupings in Ireland. Consideration should be given to the unification of appropriate groups similar to the UK BIM Task Group that brings together expertise from industry, government, public sector, institutes and academia to deliver the objectives of this strategy. CitA

would welcome the opportunity to participate in this oversight group as it has considerable expertise and knowledge in the arena of BIM both nationally and internationally.

BIM Innovation Capability Programme

Enterprise Ireland are currently funding the BIM Innovation Capability Programme (BICP) which is managed by CitA. The programme has helped to capture the capability of the Irish construction sector to embrace BIM and showcase Irish BIM projects including public sector projects. The BICP team have carried out extensive consultations with public sector stakeholders (who are all active in the CitA network). In addition, the programme includes a series of Dublin and Regional BIM centric events that have been designed in association with the Construction Industry Council (CIC). CitA would welcome the opportunity to work with the OGP in the delivery of this public sector mandate given the considerable experience and knowledge that it has gained on this project.

Training and Upskilling

CitA acknowledges the importance of training and upskilling on BIM in Ireland. Whilst CitA has a lot of experience in the delivery of Skillnet funded training in BIM, consideration should be given to the design and delivery of a national BIM training programme to support both the public and private sector.

Timeline

While there is specific reference to the need for a pubic mandate for BIM adoption in Ireland it is assumed that the periods referred to in Table 1 will not be triggered until this mandate becomes operative. This coupled with the periods referred to in Table 1 is slow moving in comparision to the programme adopted by our neighbours in the UK and Scotland. Consideration should be given to accelerating this timeline.

Project Bands
Whilst the bands have been carefully thought out it is perhaps overly simplistic. Consideration should be given to the use of a BIM Grading Tool, such as that adopted by the Scottish Government.

Topic 7 (limited to 3000 characters)

Topic 8 (limited to 3000 characters)

Topic 9 (limited to 3000 characters)

Topic 10 (limited to 3000 characters)

Dr Alan Hore
Founding Director of CitA
Alan.hore@dit.ie
www.cita.ie

Response to OGP BIM Adoption Strategy – CitA Members

Background

The Construction IT Alliance conducted a survey of its database in response to the recent GCCC position paper, "A Public Sector BIM Adoption Strategy". The survey was based on a template issued by the Office of Government Procurement (OGP). The results outline the respondents views on the positional paper. A total of 40 responses were received. Table 1 details the organisations who have replied to date.

	Institutes	Nr
1	CPA Architects	1
2	DFM Systems	1
3	Diatec	1
4	Dublin City Council	1
5	Foundries Ltd	1
6	GMIT	1
7	IBM	1
8	JJ Rattigan +Company	1
9	John Paul Construction	1
10	Kirby Group Engineering	1
11	Lagan Construction Group	1
12	Limerick Institute of Technology	1
13	Linesight	1
14	Malone O'Regan Consulting Engs	1
15	MCA Architects	2
16	Metropolitan Police Service	1
17	Mercury Engineering	1
18	PM Group	1
19	Reddy Architecture & Urbanism	2
20	RYAN+LAMB Architects	1
21	Simon J Kelly Architects	1
22	Smith and Kennedy Architects	1
23	T Bourke & Co	1
24	T J O'Connor & Associates	1
25	Thermodial Ltd	1
25	Tualatin Ltd	1
26	UCD	2
27	Waterford Institute of Technology	1

SECTION 1

Select the sector title that best describes your area of work

A cross section of professionals replied to the survey (Figure 1). The highest representation came from Architects who represented 36% of the survey. CS Engineers was the second largest response with 10%. Main, Sub and Specialist Contractors together represented a total of 16%. Some of the professionals within the other sections included Software Designer, Business Analyst and Education
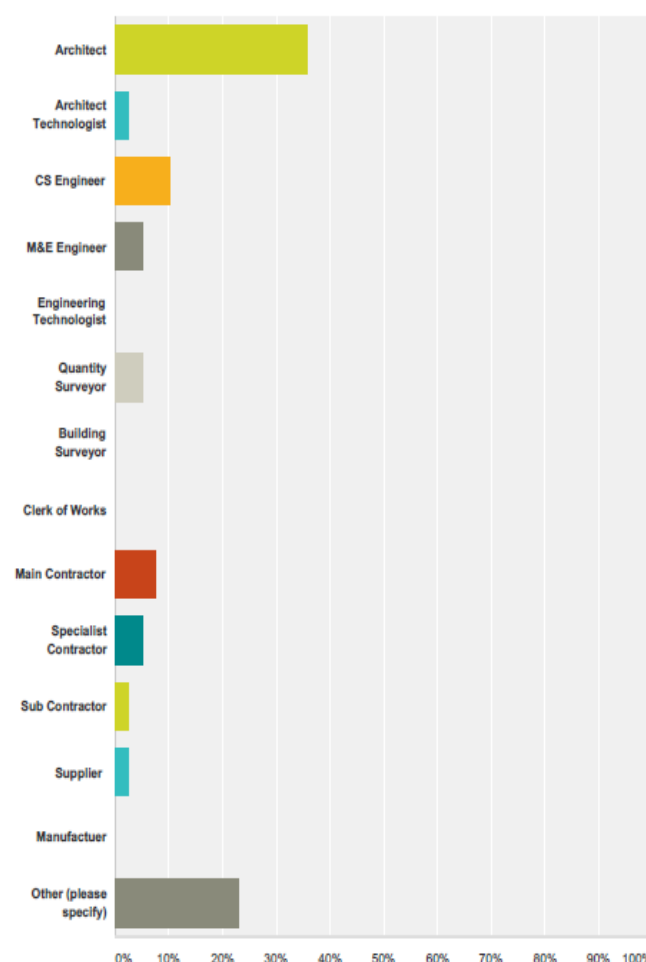

Figure 1 – Profession

Indicate whether the views expressed

are those of a business, organisation or are in a personal capacity

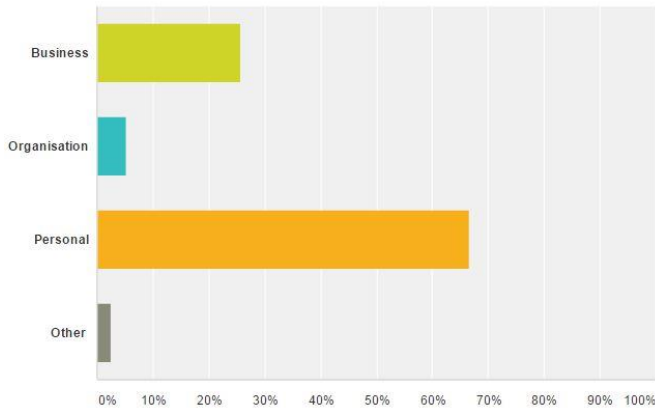The majority of respondents reported that this was a personal opinion (See Figure 2).

Figure 2 – Business, Organisation or personal

A total of ten respondents reported that this was completed as a business response.

How would you describe your current primary academic position/level?

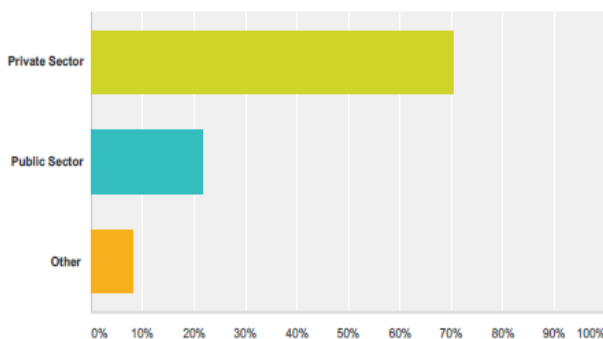The majority of respondents reported that they worked in the private sector (Figure 3).

Figure 3 – Primary academic position

Nearly a quarter of the respondents work in the public sector.

SECTION 2

Does your organisation already have BIM policies/protocols/procedures

The majority of respondents (63%) reported that their organisation already has BIM Policies in place. The remaining sample stated no (29%) or currently developing standards (8%) (Figure 4).
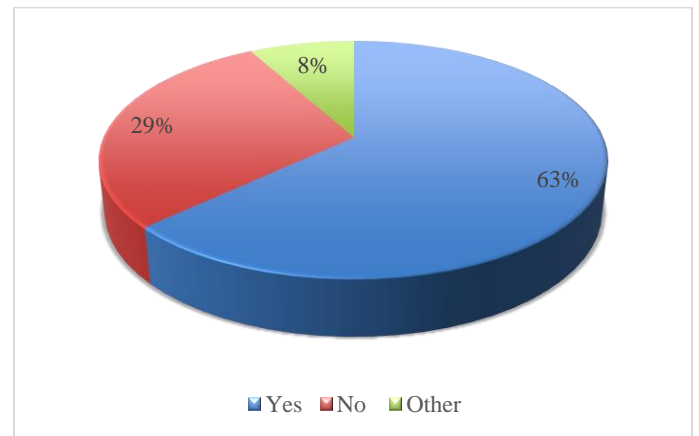

Figure 4 – BIM Policies

Has your organisation invested in BIM software?
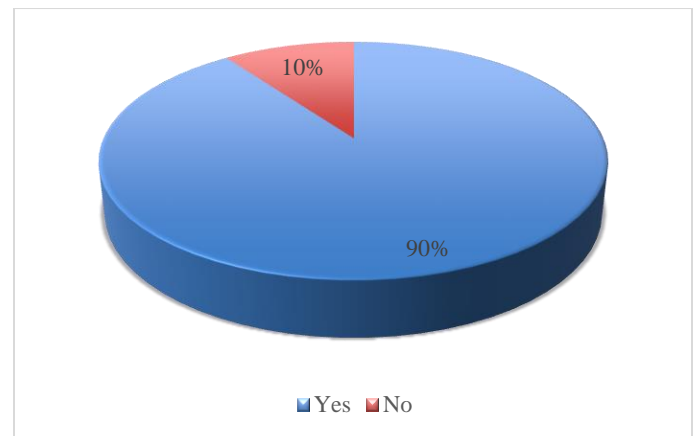

Figure 5 – BIM Software

It is clear from Figure 5 that the vast majority of respondents have invested in BIM software.

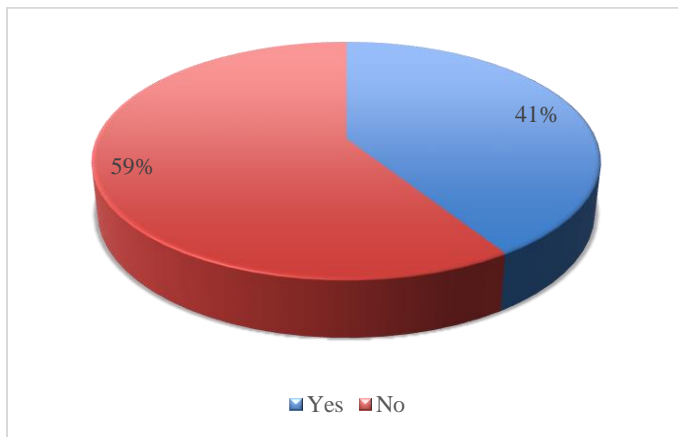## Has your organisation a dedicated BIM manager?

Figure 5 – BIM Manager

The majority of companies do not have a BIM Manager. Some of the companies within the no response (10%) have a partial role for a BIM Manager an existing role assumes the responsibilities of a BIM manager in partnership with their existing duties.

Please outline the obstacles that exist to the successful adoption of BIM in your own organisation.

The following comments were recorded:

- *Lack of BIM projects to work on. Lack of other disciplines using BIM models and processes due to it not being a Client requirement.*
- *Plausible cost/benefits analysis using empirical evidence.*
- *Remuneration of BIM capable staff, upskilling of staff is proving difficult.*
- *Reluctance for clients to adopt and overcoming the lack of staff capability.*
- *Awaiting developments from Consulting Engineers in particular with needs for BIM documents for handovers.*
- *Cultural change in the workplace - encouraging staff to do things differently..*

- *Generally we are making significant progress - however the on-going challenge of 'change' in relation to (certain) people and processes (how we educate) and finance (costs of technologies and re-training).*
- *Client demand; BIM models yes. Not necessarily willing to pay for Level Two BIM. (Remember most MNC's would prepare proper asset registers, and manage O&M using Maximo. The gains from Level Two would be less obvious for these companies)*
- *The virtual non-existence of BIM personnel who have both relevant discipline knowledge e.g. pipework fabrication and software skills. Ignorance of and sometimes outright hostility towards BIM amongst senior managers (of a certain age)*
- *The GMIT Building & Estates Department are aware and supportive of BIM implementation. The main obstacles would be upskilling and implementation costs.*
- *Statistics on ROI and lack of customer use cases for multiple industries.*
- *Finance and client engagement.*
- *The quality of design information provided on contracts and the amount of pseudo-BIM, developing a basic model supplemented with 2D information, purely to meet the demands on the design to meet the programme. This leads to higher levels of design co-ordination and monitoring on BIM projects. Also, the availability of BIM graduates in the market to fulfil the demands of BIM projects.*
- *Sourcing talent, lack of familiarity initially.*
- *It is a high burden on a business that has not seen profits rise with increased workload.*
- *Mainly around the cost of hardware; but access to high spec computers is generally a problem in the IoT sector.*
- *Design Consultants will generally issue models 'for information only' therefore they cannot be relied upon to build from. This results in contractors reverting to 2D 'for construction' drawings and BIM models can become redundant during construction period where*

they should be used to their maximum capabilities for coordination.

- Relative inexperience of BIM at management and project management level, leading to failure to clearly define the scope of our BIM delivery both internally and to our Clients. Also poorly thought out procurement strategies have led to sub-optimal adoption of BIM in the construction phase of projects.
- Changes to Existing Staff mind set. Also the level of Model information we receive from others prior to our work being done is below standard. Design team information on Models is not of sufficient level.
- Steep learning curve and dislike to the change.
- Level of work & cost.
- Pressure of time - too busy for long learning curves. Cost of software
- Working with associated company to progress BIM adoption
- Expense and expertise and decision to proceed with BIM

Please outline the obstacles that exist to the successful adoption of BIM in the construction sector

The following comments were recorded:

- Lack of interest, knowledge of the practical benefits of using BIM processes. No desire to change - too much of an upheaval.
- Agreed and enforced standards.
- Easy practical guides to BIM implementation and guidance that is relevant to the scale, complexity and finances of the organisation. This is not a one size fits all, as is being suggested by GCCC, but very much a granularity that is sector specific requirement.
- a) buy-in from all sectors b) provision of sufficient lead in time to develop the design c) mindset change and early decisions on real information d) overall (compulsory) driving force pushing BIM forward.
- Retro BIM of previous projects.

- Client's not specifying what they want from BIM through EIR / AIR / OIR.
- Convincing people and companies to change to a new way of working is the main challenge. While CitA and competition from 'enlightened champions' is having an effect, BIM requirements in contracts (public and private) is required.
- Perception of large financial outlay necessary to upgrade hardware and software to run BIM
- Demand from clients, and an inability to demonstrate real life cases of significant life cycle cost savings.
- The virtual non-existence of BIM personnel who have both relevant discipline knowledge e.g. pipework fabrication and software skills.
- The main obstacles would be a knowledge deficiency of BIM, staff training and implementation costs.
- Constructor sector only controls some of its own industry. Need the entire process to be digitized starting from the planning process.
- People's resistance to change. Lack of clear definable ROI, as most of it is intangible and only benefited from after considerable financial investment. Clarity in legal position needs to be more forthcoming.
- Availability of BIM resources in the market to meet the demands of BIM in the industry. This is limiting the adoption of BIM on viable projects, where contractors would adopt BIM regardless of a mandate. Inconsistencies in terms of BIM deliverables at the end of a project, specifically on government projects. Lack of Client understanding in terms of benefits associated with BIM.
- Resistance to changes.
- Belief by all parties that the process is more efficient and effective. Training/ education and competence to produce accurate and useful models. Model validation. Contract formats. Acceptance that working together along with early contractor involvement through BIM benefits all parties rather than the current construction process which is confrontational in many ways.

- *My own opinion is that it is marketed to profit the software and aid the notion of maintenance and coordination but to the detriment of quality architecture.*
- *Fractured nature of construction industry (almost all people involved are in SMEs and micro-enterprises), this means that investment & training are difficult to resource; - lack of standard national protocols/ service requirements; - lack of investment in educational institutions (equipment, software, staff training); - the nature of standard professional appointments/ fee structures in both public and private sector (i.e. the fee breakdown by stages is unsuited to working in BIM which requires resources at different stages) - lack of non-technical information (for owners/ clients in public and private sectors) about the advantages and future benefits; - absence of national building energy policy/ standards that prioritise energy modelling (heating, cooling, lighting and ventilation). - building control regulations that result in unnecessarily fractured/ legalistic approach to responsibility for design (i.e. that militates against more effective shared and collaborative work model)*
- *Lack of trained personnel. Hardware needs to be high spec; this is not always understood*
- *Reluctance of companies to share models with teams as they are traditionally used to issuing frozen pdf drawings.*
- *Lack of confidence/skills in producing good, useable models suitable to build from.*
- *Knowledge & Investment.*
- *Widely varying levels of BIM experience and capability in Client, A/E and Contractor organisations, leading to misalignment of expectations and sub-optimal delivery of BIM projects. This again is largely driven by an immature understanding of BIM at management level in organisations, leading to over-promising and under-delivery.*
- *Jobs being designed from the start in BIM and the information being passed on. Too many times design models are lacking high levels of information and design not fully developed and*

- *contractors are supposed to finalise incomplete designs.*
- *Those who want it and see the obvious benefits will progress to joining the movement for the better, those who do not want it will find any sort of excuse to delay/stop/put-off the change*
- *Professional Fees, Lack of an industry-wide adoption, Limited experienced resources.*
- *Education / cost.*
- *Cost and Training.*

SECTION 3

The following comments were recorded in response to the paper.

- *Paper is too basic and table 1 does not cover my area.*
- *Use of BIM in tenders.*
- *It is important not to underestimate the training issues with the various software platforms that need to be adopted - the potential for additional waste as identified in 2.2 is very real.*
- *Don't reinvent the wheel! PAS 1192-2 and the other British initiatives have already done a lot of the legwork - let's leverage this to the max!*
- *The strategy does not offer an options appraisal. It sets forth one approach and there is little evidence to merit the stated approach.*
- *BIM training and plans to implement.*
- *Listen to people in the industry that already know how to implement BIM. The success of projects like One Windmill Lane shows that the skills and commitment are already there, and many of the industry players are the same people that will be bidding on GCCC jobs, so USE THE EXPERTISE THAT'S ALREADY THERE!*
- *Procurement of BIM needs to protect the client and provide long term benefits. May Winfield and Currie has written extensively on this and outline how the JCT and NEC contracts lack. Greater security protections needs to be afforded to the client i.e. IP.*

- *Get a move on - 48 months is far too long a horizon for Level 2 adoption. The rest of Europe will already be at Level 3 by then!*
- *Templates should be incorporated into an online tool such as NBS.*
- *Don't try to apply BIM across everything at once - it will not be practical for every Contracting Authority to have the necessary BIM capability to engage with BIM projects. Start with major authorities and develop the capability before rolling out to the wider authority community.*
- *The "oversight" body needs to contain cross cutting public sector BIM knowledge experts. To create an oversight body that does not represent the key stakeholder is ludicrous.*
- *OGP should contain Public Body, subject matter experts on BIM implementation.*
- *The bands should be sector neutral and relate to project cost, size, complexity and directly relate to supply chain expertise rather than to a set of arbitrary buildings. Table 1 is a poor categorisation of BIM. Where is the data to support this theoretical timescale and when does it start from?*
- *There should be tie up with the UK BIM Alliance which is charged with the implementation of LEVEL 2 BIM.*

Prepared by
Dr. Alan Hore (DIT)
Dr. Barry McAuley (CitA/DIT)
Professor Roger West (TCD)