16 April 2018

Cirrus Consultant Services

BIM Consultancy
Training and Bids

Fiona Moore

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New Year’s Resolutions:

1. Ask “Why are we having a meeting?”

2. Try not to kill people with PowerPoint.

I hate the way people use slide presentations instead of thinking. People would confront a problem by creating a presentation. I wanted them to engage, to hash things out at the table, rather than show a bunch of slides. People who know what they’re talking about don’t need PowerPoint.

— Steve Jobs —

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Introduction to the Centre for Digital Built Britain

BIM Region Oxford

16 April 2018
A Short History: Digital Built Britain

2011
- Government Construction Strategy outlines BIM Mandate

2012
- BIM Task Group Formed
- First BIM L2 Standard released PAS:1192-2

2015
- Digital Built Britain Strategy Launched
- Suite of L2 Standards complete with PAS:1192-5

2016
- Government Construction Strategy: 2016-2020 launched
- L2 BIM Mandate starts

2017
- Centre for Digital Built Britain announced at the University of Cambridge
The Centre for Digital Built Britain’s Mission

To develop and demonstrate policy and practical insights that will enable the exploitation of new and emerging technologies, data and analytics to enhance the natural and built environment, thereby driving up commercial competitiveness and productivity, as well as citizen quality of life and well-being.
Governance

Strategic Board
Chaired by Professor Lord Mair

Management Board

Dr. Barry Blackwell
BEIS Policy Lead

Alex Luck
Project Manager – Security Stream

Dr Mark Bew
Strategic Advisor

Prof. Andy Neely
Director

Dr Jennifer Schooling
Director of Research Bridgehead

Alexandra Bolton
Assistant Director

Dr. Ioannis Brilakis
Academic Advisor

Expert Panel
Research Bridgehead

Build
Operate
Integrate
International
Security
Industry Partnership

Operations Team
CDBB Objectives

1. To act as the custodians of the integrity of the UK BIM and Digital Built Britain Programme across all the levels and to be recognised both nationally and internationally as that institution.

2. To liaise with national and international standard bodies to create and modify technical standards and protocols which remain relevant to UK needs and which support industry adoption and implementation of all levels of Digital Built Britain.

3. To develop a research bridgehead to ensure that the Digital Built Britain programme undertakes, commissions and is cognisant of new and emerging research and technological developments that will impact the built environment in the years and decades to come.

4. To track capabilities in the UK and elsewhere to ensure successful commercial exploitation of these new technological developments, identifying where capability investment may be required.

5. To develop and inspire an industrial community who, combined with academics and policy leaders, will provide leadership on adopting and implementing new digital approaches.

6. To co-ordinate and deliver a range of events and activities designed to engage industry in defining and adopting BIM levels 3 and 4, rethinking their business models and the ways in which they use technologies, data and analytics to deliver social outcomes through the built environment.

7. To ensure that findings and insights from the Centre and its engagement activities inform future policy, industrial practice, standards and research initiatives.
Next steps ahead of official launch

• Engaging with potential collaborators through workshops and an engagement process
• Co-development of industry partnership programme
• Running a series of funding calls to pump prime Research Bridgehead
• Demonstrator projects and case studies
• Recruiting operations team, including a Commercial Manager
• Expert panel and strategic board in place
• Continuing to refine the CDBB agenda

www.cdbb.cam.ac.uk
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How far have we come?
Working towards BAU – UK Govt. BIM Working Group
BIM Level 2 Standards

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Q: Are you/your Clients asking for BIM and if so why?

Q: Do you know why?

Q: Have you asked why?

“Can’t remember now???”

“Because everyone else is doing it and we don’t want to be left behind”

“We’re techies and it excites us”

“How else do we attract talented recruits to our industry?”

“We went to a fantastic BIM Conference and came away convinced that BIM was the answer”

“Because someone (we can’t remember who) suggested it was a good idea”

“We’ve bought the software so we might as well ‘do BIM’”

“The 2016 UK Government BIM Mandate”
Q: Are you/your Clients asking for BIM and if so why?

“Because we understand the specific benefits BIM Level 2 will bring to us.”

We understand the benefits for:
• Clients
• Designers
• Consultants
• Constructors
• Supply Chain (Level 3 and beyond)

We have a means of measuring these benefits and therefore demonstrating them.
**BIM for Clients: The Why, What and How?**

**Why?**

‘A ship engine failed, no one could fix it. Then they brought in a man with 40 years on the job. He inspected the engine carefully, top to bottom. After looking things over, the guy reached into his bag and pulled out a small hammer. He gently tapped something. Instantly, the engine lurched into life. The engine was fixed! 7 Days later the owners got his bill for £10k. 'What?!' the owners said “You hardly did anything, send us an itemized bill.” The reply simply said: Tapping with a hammer £2. Knowing where to tap £9,998.

Don't ever underestimate experience… 

Knowledge (information) has value.

Who/what holds key knowledge in your business?

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BIM for Clients: The Why, What and How?

Why?

Who owns/manages your organisation’s knowledge (information/data) and hence who has the power to solve your problems?
What no 3D model?

Consider model geometry a sub-set of data
Honestly, which of these apply to you/your organisation/business?

A+ On target to achieve objective

D- Could do better

B- Current goal set too high

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Ask yourselves (again):
What exactly is my objective?
BIM Level 2 BAU
Fiona’s top to-dos:

1. BIM Benefits Measurement
2. Clear Employers Information Requirements (EIR)
3. Built Asset Security Requirements (BASIR) PAS1192-5
4. Compliant Common Data Requirements (CDE) - Verification and Validation
1. BIM Benefits Measurement

Asset Cycle – Focus on the right thing!
1. BIM Benefits Measurement

BIM Benefit Pathways

- Time savings
- Materials savings
- Cost savings
- H&S Improvement
- Risk reduction
- Improved asset utilisation
- Improved asset quality
- Improved reputation

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1. BIM Benefits Measurement

<table>
<thead>
<tr>
<th>Activity</th>
<th>BIM enabler</th>
<th>Intermediate benefit</th>
<th>End benefit</th>
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</thead>
<tbody>
<tr>
<td>Design authoring</td>
<td>BIM modelling improves accuracy of asset information and its flexibility for design changes</td>
<td>3D modeling &amp; automated rule checking reduces design time</td>
<td>Time savings in design</td>
</tr>
<tr>
<td></td>
<td>CSI bring supply chain together to focus on operational outcomes</td>
<td>Quick implementation of design changes by the supply chain</td>
<td>Time savings in design</td>
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<td></td>
<td>Creation of object and design libraries</td>
<td>Fewer requests for additional information during construction</td>
<td>Time savings in build &amp; commission</td>
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<td>Federated model enables checks</td>
<td>More accurate asset performance analysis based on design information e.g. Energy consumption over whole of life</td>
<td>Reduced cost of operations</td>
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<td></td>
<td>Use of Common Data Environment as defined by PAS1192</td>
<td>Virtual construction reduces error</td>
<td>Environmental benefit</td>
</tr>
<tr>
<td></td>
<td>Use of BIM based file naming conventions</td>
<td>Automated clash detection reduces error during construction</td>
<td>Improved asset utilisation</td>
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<tr>
<td></td>
<td>Engineering rules enforced by BIM</td>
<td>Design and construction are easier to coordinate and take less time</td>
<td>Time savings in design</td>
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<td></td>
<td>Reduced number of project coordinators from client’s team</td>
<td>Time savings in build and commission</td>
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<td>Easier change control by the client</td>
<td>Time savings in design</td>
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<td>Transparent audit trail in information delivery timeline</td>
<td>Time savings in build and commission</td>
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<td>Fast access to documented information</td>
<td>Time savings in design</td>
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<td>Design optimised for lean construction based on specified rules</td>
<td>Time savings in design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduced chance of human error</td>
<td>Time savings in build and commission</td>
</tr>
</tbody>
</table>

Key - Benefits realised in alternative stage of asset lifecycle:
- Stage 5: Build & commission
- Stage 7: Operation & end of life

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2. Clear Employers Information Requirements (EIR)

CPNI PAS1192-5 FAQs

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4. Compliant Common Data Environments (CDE) - Verification and Validation
My to-do list can’t be done in isolation:

We all need to collaborate and support one another.
Food for Thought – The Digital Citizen:

LinkedIn Article – John Kizior, Global Director, Project Technologies at Aecom, Inc.

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