



Means and Methods: The Gray Area of BIM

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About The Speaker – Trevor Owen

		12 Years	20+ projects	15 Applications	2,000+ Coordination hours
		Started using Revit and Navisworks in 2010 and evolved into other workflows as technology evolved.	16 Years in Construction with over \$7B+ in construction project value.	2D/3D/4D Modeling, Coordination, Drones, Reality Capture, Visualization, and growing!	Includes attending, and sometimes leading, weekly coordination meetings.

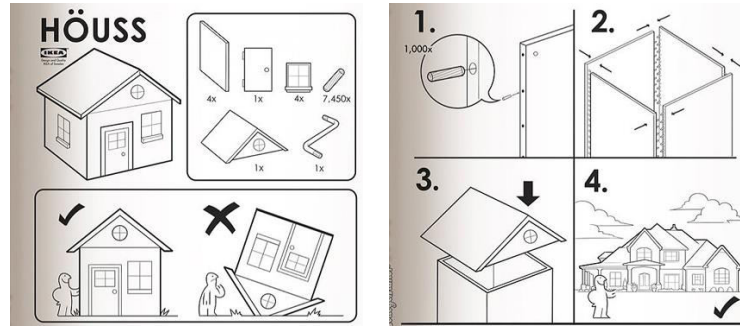


Agenda

1. Introduction
2. The Power of Detailed Modeling in Construction
3. Optimizing Labor Efficiency with Advanced BIM
4. Key Takeaways
5. Q&A Session



Instructions That Are Missing The Most Crucial Steps



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Producing a finished product with raw material and instructions can be frustrating. Why?

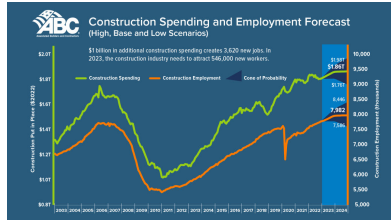


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The Labor Shortage and Its Impact on AEC Industry

Image Credit: Associated Builders and Contractors



Construction Backlog Indicator	May 2023	Apr 2022	May 2022	1-Month Net Change	12-Month Net Change
Total	8.9	8.9	9.0	0.0	-0.1
Industry					
Commercial & Institutional	9.2	9.2	9.1	0.0	0.1
Heavy Industrial	7.2	8.4	8.8	-1.2	-1.6
Infrastructure	9.3	8.0	9.3	1.3	0.0
Region					
Middle States	7.5	7.0	8.1	0.5	-0.6
Northeast	8.0	9.1	9.6	-1.1	-1.6
South	10.9	10.7	9.6	0.2	1.3
West	9.1	8.4	8.2	0.7	0.9
Company Size					
<\$30 Million	8.2	8.1	8.2	0.1	0.0
\$30-\$50 Million	9.1	8.8	11.0	2.3	-1.9
\$50-\$100 Million	9.7	13.0	10.8	-3.3	-1.1
>\$100 Million	14.1	11.9	13.2	2.2	0.9

Image Credit: Associated Builders and Contractors

“WASHINGTON, Feb. 9—The construction industry will need to attract an estimated 546,000 additional workers on top of the normal pace of hiring in 2023 to meet the demand for labor, according to a proprietary model developed by Associated Builders and Contractors.”

“WASHINGTON, June 13—Associated Builders and Contractors reported today that its Construction Backlog Indicator remained unchanged at 8.9 months in May, according to an ABC member survey conducted May 20 to June 7. The reading is 0.1 months lower than in May 2022.”

Importance of Standardization and Focus during Chaotic Situations



Manage Properly



Scale Predictably



Following Governance



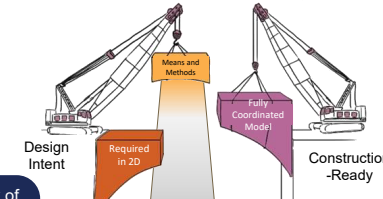
Understanding the Concept of Means and Methods in Construction

“A term used in construction to describe the techniques and tactics (usually temporary structures) a contractor employs to **complete construction** of a permanent project or structure.”

International Risk Management Institute



Leveraging Advanced BIM Models for Efficient Project Execution – gap analysis



- Fragmented data and lack of interoperability.
- Does not enable productivity onsite/offsite.
- “Per plans and specs”
- “For reference only.”

- Enables the constructability of the design.
- Affects the number of RFI's
- Demand for labor and materials increases.

- Lean-down the processes and labor needed.
- Increase prefabrication to optimize material and labor onsite.
- Leverage robotics.



Addressing the Skilled Labor Shortage through Technology

Most Experienced

- Least affordable
- Most knowledgeable
- Least available
- Close to or coming out of retirement
- Knows how to "fill the gaps" in the data from the Design Team → RFI's

Most Available

- Most affordable
- Least knowledgeable
- Difficult to recruit
- Harder to retain
- Views the industry as less attractive
- Highly skilled technology

- These technologies require data input for the output to be reliable.
- Marrying process, people and technology allows for a great reach by meeting the worker at their competence level.
- In turn, the more detailed the model, the less thinking required onsite for traditional tasks.



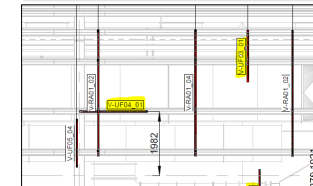
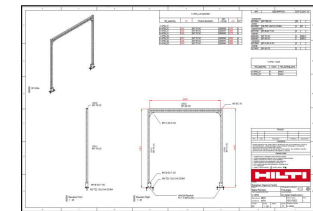
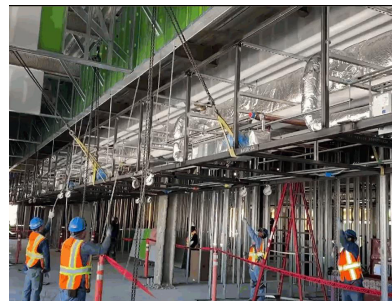
Construction methodologies are changing and with that, are attracting the next generation



Empowering Field Labor with Highly Detailed BIM Models Enables Productivity Onsite



vs.



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Apply Your Learnings

- 1. Balancing the Level of Detail in BIM for Different Project Types**
Detail is crucial. Detailed modeling isn't just about pixels; it affects efficiency and results.
- 2. Prioritizing People and Standardizing Processes for Excellence**
Ask your customer if they have a VDC Department, then do additional discovery to determine digital maturity level and introduce DCC
- 3. Leveraging VDC and Relevant Technologies for Project Success**
By focusing on people, using technology, and standardizing methods, we bridge the gap between challenge and success.

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Thank you

Trevor Owen, Product Manager – BIM Design Services

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