

## Building Information Modeling Frequently Asked Questions



**Q: What does BIM mean? What are some other terms I might need to know when working with BIM?**

**A:** BIM stands for “building information modeling.” Some other terms that are good to know:

LOD - level of development, used to refer to the maturity of the model elements. LOD explanations, as well as other terms and their definitions, such as digital twins, can be found on pages 29 and 30 of the 2022 [AIA Digital Practice Guide](#). Additional information can be found in the LOD Specification, available at <https://bimforum.global>.

VDC - virtual design construction, used to refer to the use of BIM and 3D modeling elements in the construction process.

**Q: What does my metal building manufacturer need to know about my BIM project?**

**A:** In general, the manufacturer will need to know how accurate or complete of a model to provide and the schedule for providing the model. The manufacturer may or may not be aware of the terms listed above. If BIM work has been

agreed upon as part of the contract, ensure the manufacturer can meet whatever was agreed upon. Some examples of the information your manufacturer may need to know:

- The LOD expectation. As soon as possible, preferably in the bid process, as increasing LOD later in the process could have additional cost.
- Schedule
- How will the builder and manufacturer be updated about future clashes?
- File type format
- What are the coordination expectations?

**Q: What do I need to know when bidding a job with BIM requirements?**

**A:** If a bid requires BIM for the project, discuss the requirements with your manufacturer. The manufacturer may or may not be able to meet the requirements as written. Also make sure all roles and responsibilities are defined, such as who is responsible for attending coordination meetings and resolving issues arising from those meetings.

**Q: What is different about managing a project that uses BIM?**

**A:** BIM is a project management tool that is used to improve coordination and collaboration between trades, so there may be differences from the standard project workflow. Take into consideration how these changes could impact critical path and how or when your building should be ordered.

Below are some links to workflow guidance or possible solutions for your projects:

[What Do You Really Know...Really Know about BIM Workflows? David Butts, LinkedIn, December 20, 2019](#)

[The Ultimate BIM Workflow Guide for a Design-Build Project, Claire Mao and Arturo Monarrez, Autodesk Class](#)

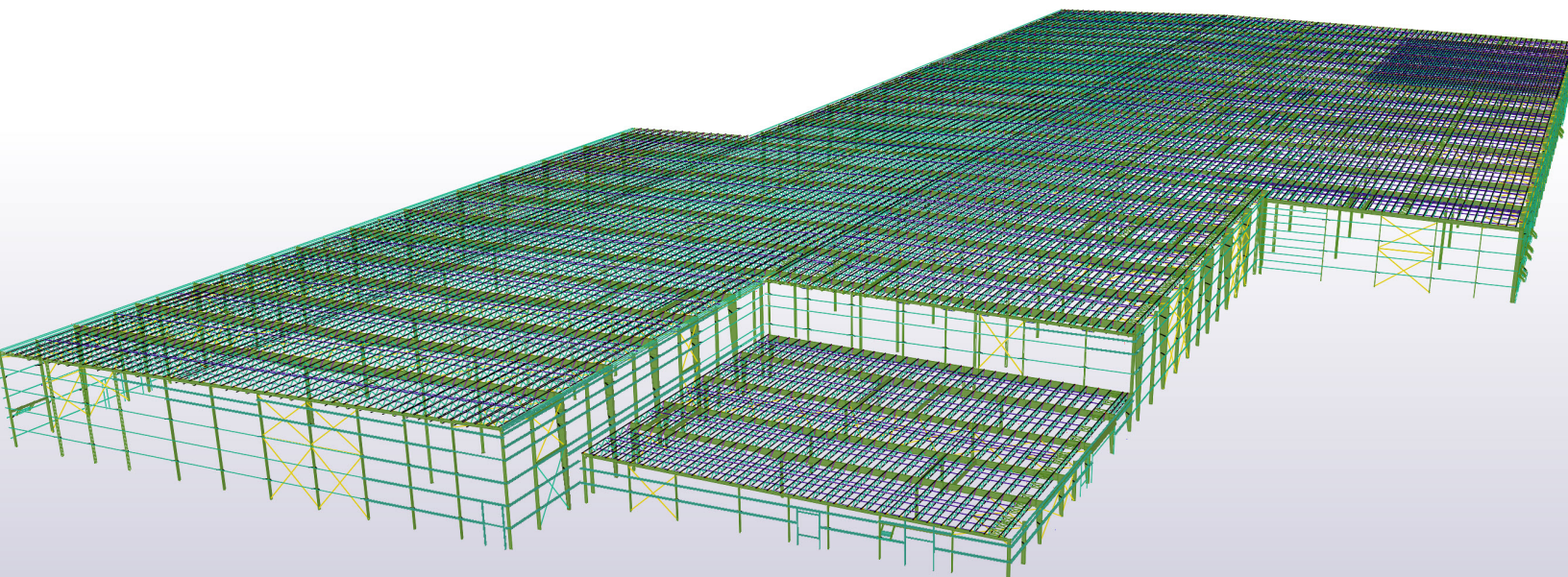
[What Do You Really Know...Really Know about BIM Workflows? Hagerman Connection Blog, Hagerman & Company](#)

[11 Ways to Better BIM Workflows Using a Unified Platform, Carol Dunn, Applied Software, GRAITEC Group, October 28, 2022](#)

**Q: What are the differences between conventional steel and metal buildings with regards to BIM?**

**A:** BIM originated as a way to facilitate communication between trades such as plumbing, electrical, structural, drafting, and fabrication. In the metal building industry the structural design, drafting, and fabrication are all done in house by the same entity often using proprietary software. Since successful BIM is process driven, this may affect the schedule or timing of the manufacturer's deliverables, or their software may not naturally facilitate this process. It may be best to vet or gauge the particular manufacturer's ability to execute deliverables in this area before contracting.

There are also third-party BIM consulting companies that may be hired to fill in holes where the manufacturer is not able to assist in the BIM process. Conventional steel uses more consistent and/or standard shapes and products in their construction, which are likely to be available "out of the box" for most software. Successful BIM for a metal building may require commitment to creating valid BIM content from the manufacturer.



**Q: What kind of deliverables can I expect when requesting BIM?**

**A:** There are many 3D model file formats that can be used on BIM projects. Most file formats are going to be specific to the software being used, but any BIM software can generate an .IFC file (IFC = industry foundation class). The .IFC file format is a “catch all” BIM file format that can be read by almost all 3D model viewers. If a specific file type is required for your project, make sure you discuss it with your manufacturer.

**Q: What other resources are available to me if I want to learn more about BIM?**

**A:** There are several other resources available to contractors, project managers and engineers about BIM, including but not limited to:

[AISC BIM-VDC Guide](#)

[AGC Certificate of Management - BIM](#)

[MBCEA BIM Presentation, 52nd Annual MBCEA Conference](#)

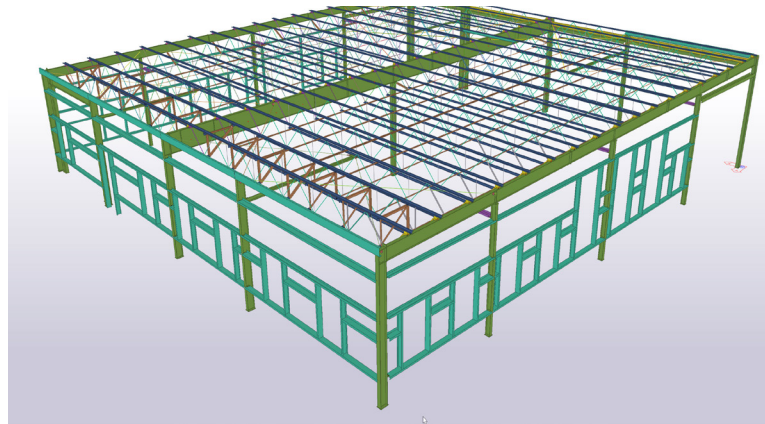
Also see page 2 of this document for further references.

**Q: What costs can I expect for BIM from a metal building supplier?**

**A:** The costs associated for BIM will vary by supplier and scope. It is best to discuss in detail with your supplier if your project has BIM requirements. Note that coordination and clash detection is not standard for metal building manufacturers and is typically done by the general contractor’s BIM coordinator.

**Q: What are 4D and 5D?**

**A:** 4D and 5D refer to project variables outside of the 3-dimensional physical space. There is no



standard definition of 4D or 5D, but in construction and BIM coordination, they are often used to refer to time (or schedule) and cost. These elements of the model are typically used by contractors or BIM managers and would fall outside the scope of a metal building supplier.

**Q: What is a digital twin?**

**A:** A digital twin is a full copy of the building including manufacture and diagnostic information on the building systems that can be used in the lifecycle of the building for maintenance, retrofits, etc. This is a very high-level use of BIM and would likely require a specialized contractor. A metal building model would be static in a digital twin.

**Q: What do I need to do if I only want to use BIM for marketing?**

**A:** When using BIM for marketing, the accuracy of the structure is not as important, but the visualization and aesthetics of the structure are. Building suppliers may be able to provide upfront models or may be able to provide models directly out of their software that can meet these needs. It is important to note that these models should not also be used for clash detection. The model should be clearly documented as “not for construction/clash detection” and may be referred to as a “rendering.” Marketing models typically have elements at LOD 100 to LOD 200.

**Q: What happens to my 2D contract deliverables if I am using BIM?**

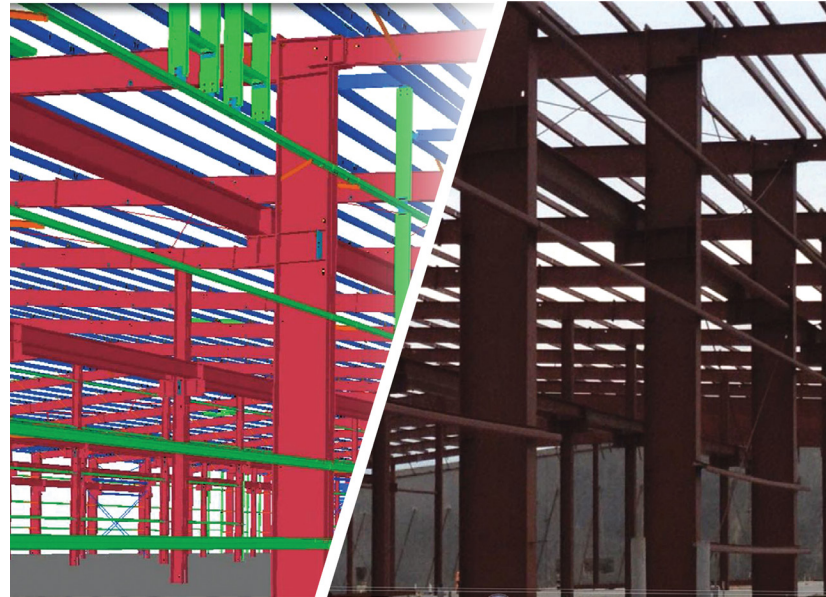
**A:** Likely nothing. Make sure all deliverable types and dates are understood when contracting a project with BIM requirements.

**Q: How do we collaborate with other disciplines when not using the same software?**

**A:** Typically, whoever specified BIM requirements for the project (contractor, architect, end user or other) will specify the model coordination requirements between trades. This coordination will typically require the use of a third-party software built to coordinate these models. Use or access to this software may be a part of the contract requirements.

**Q: What are the different uses for BIM and 3D models?**

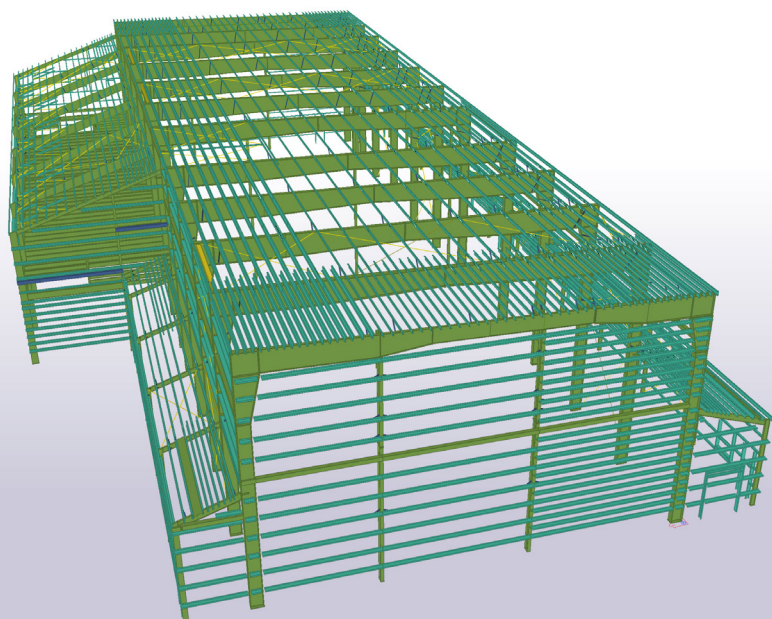
**A:** BIM is a broad term that can mean a lot of different things. Models can be very basic or very complicated. It is best to know and understand the intended use of the models when contracting

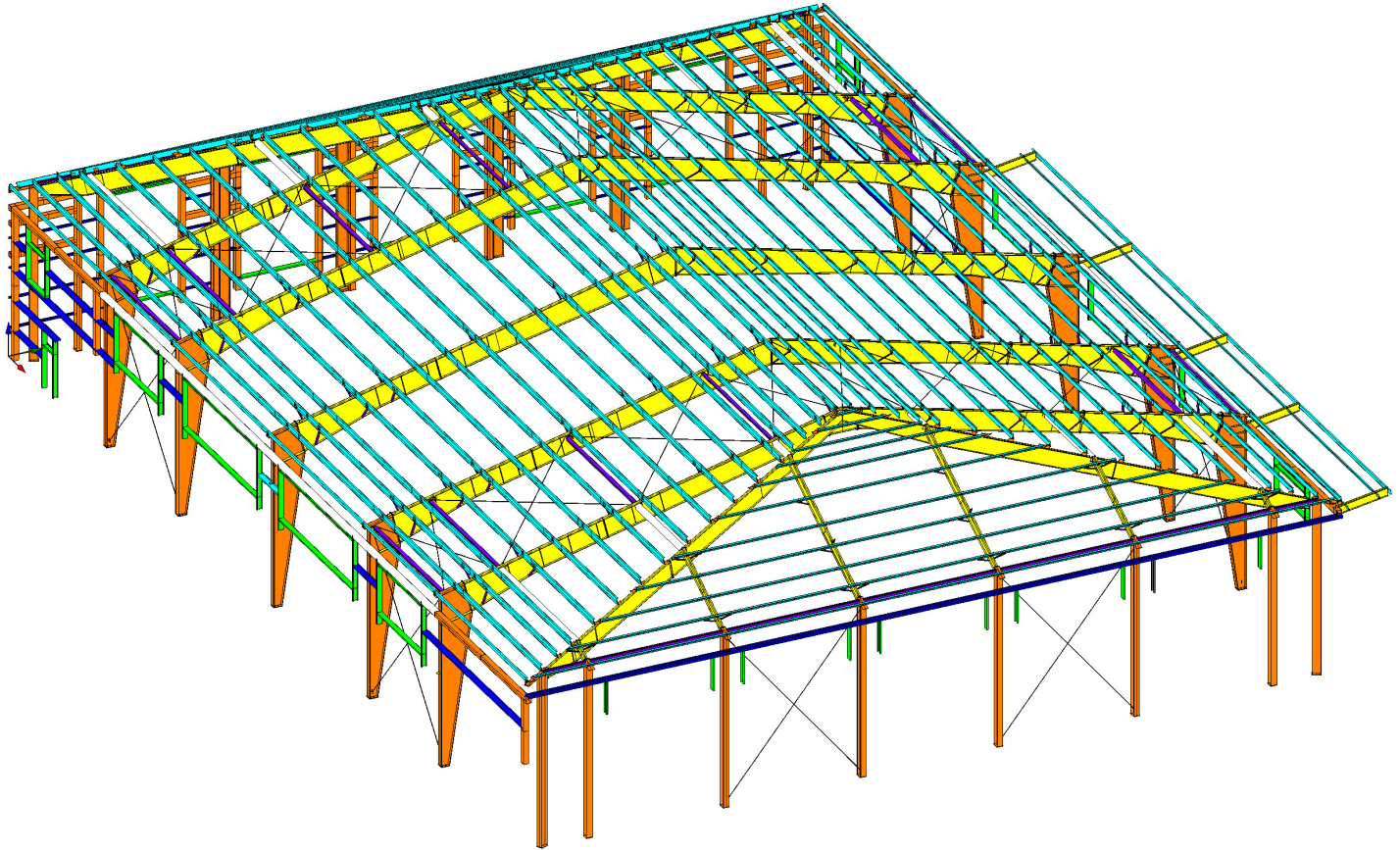


projects that have BIM requirements. BIM has many uses for your business, including scheduling, visual aids, learning tools, marketing, and more.

**Q: What if there are conflicting requirements or the manufacturer cannot meet the requirements?**

**A:** It is possible the manufacturer may not be able to meet the BIM requirements as written in the specification. It is important to acknowledge and address this when bidding a project. Most specifications will require exceptions to certain parts of the specification when bidding, and BIM requirements are no exception. For example, a specification may list a requirement of LOD 400, which typically requires manufacturing data to be included. This should not be a requirement of a metal building manufacturer as they are acting as the manufacturer. If no exceptions are allowed to the specification, it may require contracting an outside firm to provide BIM modeling for the metal building system that can meet the specification requirements.





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