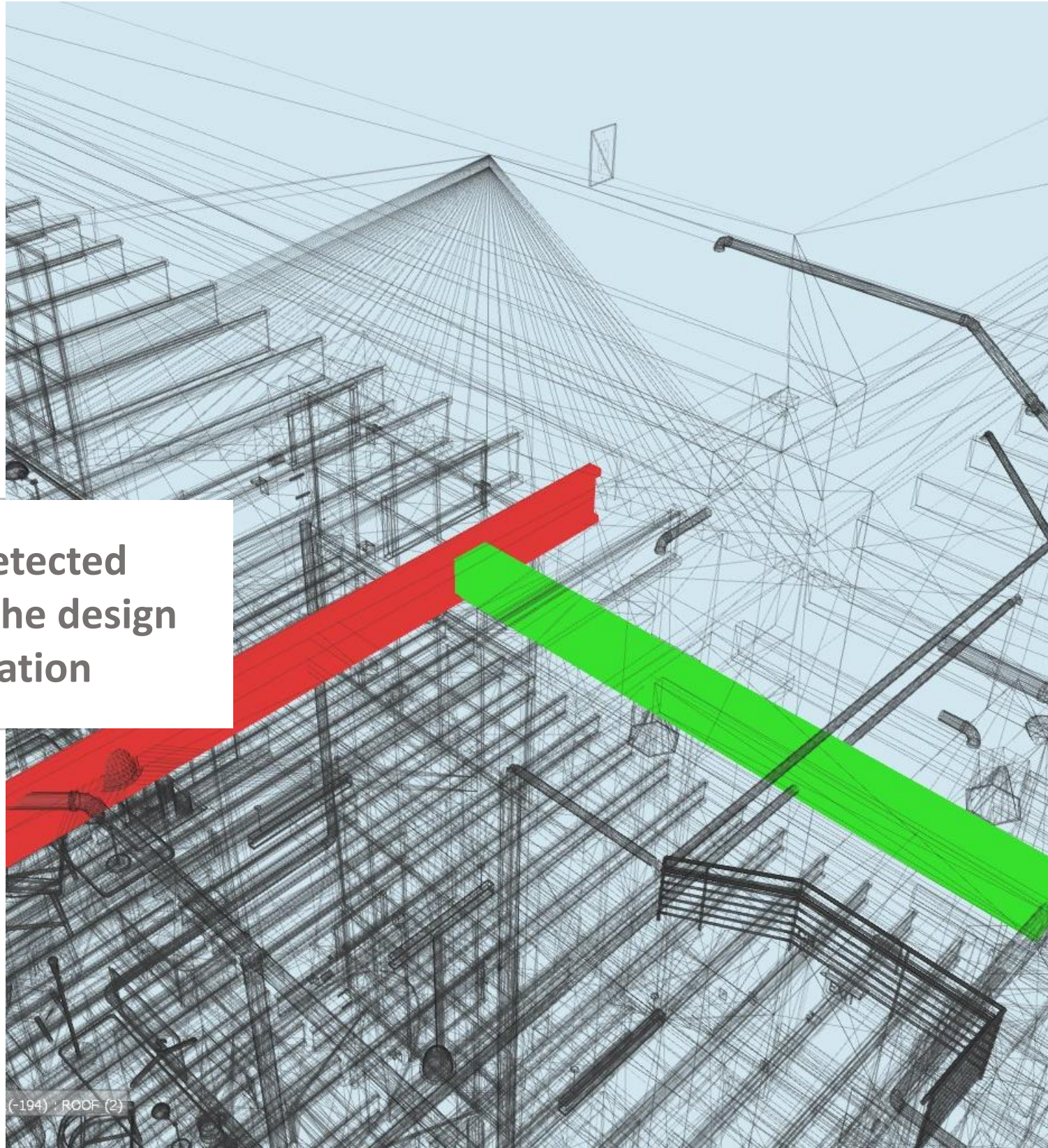




8 Crucial Mistakes in BIM

Implementation & Ways to Tackle Them



**Clash detected
during the design
coordination**

INTRODUCTION

BIM (Building Information Modeling) is an intelligent 3D model-based process that provides insightful structure and tools which enables professionals like architects, engineers, and contractors to more efficiently plan, design, construct, and manage buildings and infrastructure. Every budding BIM modeler would like to know the common mistakes in BIM implementation and how to tackle them.

Sharing, reusing and exchanging of data is an integral part of the BIM process structure. It's important to realize that we can only rip the benefits of BIM only if the data inputs and sharing are aligned with the process aiming to minimize errors and maximize accuracy. In the following article, we will touch upon the common mistakes in BIM and the tactical way to overcome them.

8 CRUCIAL MISTAKES IN BIM IMPLEMENTATION



Lack of BIM Execution Plan (BxP)



Not using the right hardware



Not emphasizing on **B-Information-M**



New software-old skill sets-**BIG NO**



High-Low use of 3D content



Over-modeling



Reckless use of external 2D content



No quality checks

1. LACK OF BIM EXECUTION PLAN (BXP)

The Basic BIM execution plan should contain necessary rules of collaboration and information exchange. On a basic level, it may contain

- BIM goals-objectives
- Execution Process: Task allocation and structure
- Information exchange protocol
- Defining Infrastructure requirement

It enables you to set down the roles, expectation and process requirements which saves lots of hassles down the track. You know who is responsible for what, which tools and technology will be used. It provides much more benefits than the efforts it takes.

One of the most common mistakes in BIM is believing in the general notion that BIM execution plan is only useful in big scale projects. In our industry experience of over 100 BIM projects, we believe that any basic plan is better than none at all.

The key to a good BxP is the simplicity of the layout. Some BxP is so over thought and complex that they become impossible to implement and soon forgotten.

2. NOT USING THE RIGHT HARDWARE

You certainly don't need the most powerful and most advanced system. You just need the right tool and technology depending on the software you are using and the requirement of the project.

Your system's performance and speed will be directly impacted by,

- CPU speed
- The number of Cores
- System memory size
- Hard drive- type & size
- Graphic card

One of the most common mistakes in BIM at the beginning is choosing the right graphic card. Most of the graphic cards are designed for the purpose of gaming and not for CAD applications. The key decision is to get the CAD-compatible graphic card rather than going for the high end, expensive one.

As for the CPU and core configuration, it depends on the CAD software. Revit is a single threaded application which requires only 1 CPU core most of the time, and for selected tasks, it will utilize the remaining cores. While ArchiCAD utilizes all the cores to updates viewpoints in the background.

Only multi-thread operations like CPU based rendering, file opening, exporting BIMx files uses all the cores up to 100%. So unless you are doing all of the above operations multiples time, you will be comfortable with workstation, not more than 6- super fast CPU cores.



RECOMMENDED SYSTEM CONFIGURATION

- Operating system: Microsoft Windows 10, 64-bit- Enterprise, or Pr
- CPU Type: Multi-Core Intel Xeon, or i-Series processor or AMD equivalent with SSE2 technology
- Memory: 8 GB RAM
- Video Display: 1680 x 1050 with true color
- Graphic Card: DirectX 11 capable graphics card with Shader Model 5
- Disk Space: 5 GB disk space

According to Revit software company, Autodesk following is the system requirement for Revit-2018 product line with balanced price and performance.

Here is a complete guide for [Ideal System Requirement for different Revit products](#) by Autodesk.



3. NOT EMPHASIZING ON B-INFORMATION-M

Information is one of the most valued aspects of BIM. It provides the end users with the critical information like cost estimation, the quantity of material, project scheduling, maintenance schedule etc. The information rendered in your model should be accurate and precise without any scope of misinterpretation. The plumbing fixture in a model should represent a plumbing fixture with all its physical and non-physical properties with quantity and maintenance plan.

The detailed information of your BIM model signifies its practical value and turn a geometric diagram into a highly valuable asset, clients are willing to pay for. The level of development varies from project to project according to client's requirement. At United-BIM we provide services ranging from LOD-100 to LOD-600.

4. NEW SOFTWARE- OLD SKILL SETS- BIG NO

Like everything around us, BIM technology and software are constantly evolving and revamping. One of the common mistakes in BIM is not “unlearn and learn” updated features and latest software. Your experience and expertise in older version might not guarantee the excellence in the latest version unless you train and adapt your skills accordingly.

A major key factor which even many of the experienced BIM modeler misses out on is the necessity of change in way of using the software. If you are using the latest version, the way you were using it for the last few years, you might be just wasting your money on new technology. You must upgrade your skills with the technology update.



5. OVER-MODELING

You would like to avoid modeling down to the last element like nuts which won't be even visible on the drawing. This is one of the most common mistakes in BIM, especially with new modelers. You might be tempted to use the fixture easily available on the manufacturer's website. But the branded fixture contains much more unnecessary details which you don't even require. Unaware of how significantly it increases the complexity of your model which eventually hampers the loading speed and drop in navigation speed through sheets.

There are two ways you can end up over-modeling

1. Excessive elements
2. Unnecessary details

6. HIGH-LOW USE OF 3D CONTENT

Keeping the balance between using the right amount of 3D content such as Revit families or embedded object in ArchiCAD is very critical and many modeler-drafter finds it difficult to master.

You will face the following issues in both scenarios.

1. Under Utilisation- Excessive repetitive designing work
2. Over Utilisation- LARGE file size

Over utilizing 3D content may ends you up with larger file library sizes than actual building model. It is surprising to know that so many projects are suffering from this problem.



7. RECKLESS USE OF EXTERNAL 2D CONTENT

In general, following common external 2D contents are used in modelling,

- DWGs
- PDFs
- Images

When you are importing such files without considering the consequences on the model, you might face some conflict like file bloating and performance issues at later stages. Also, the relevance of external content with your current software version is also important.

How to tackle it:

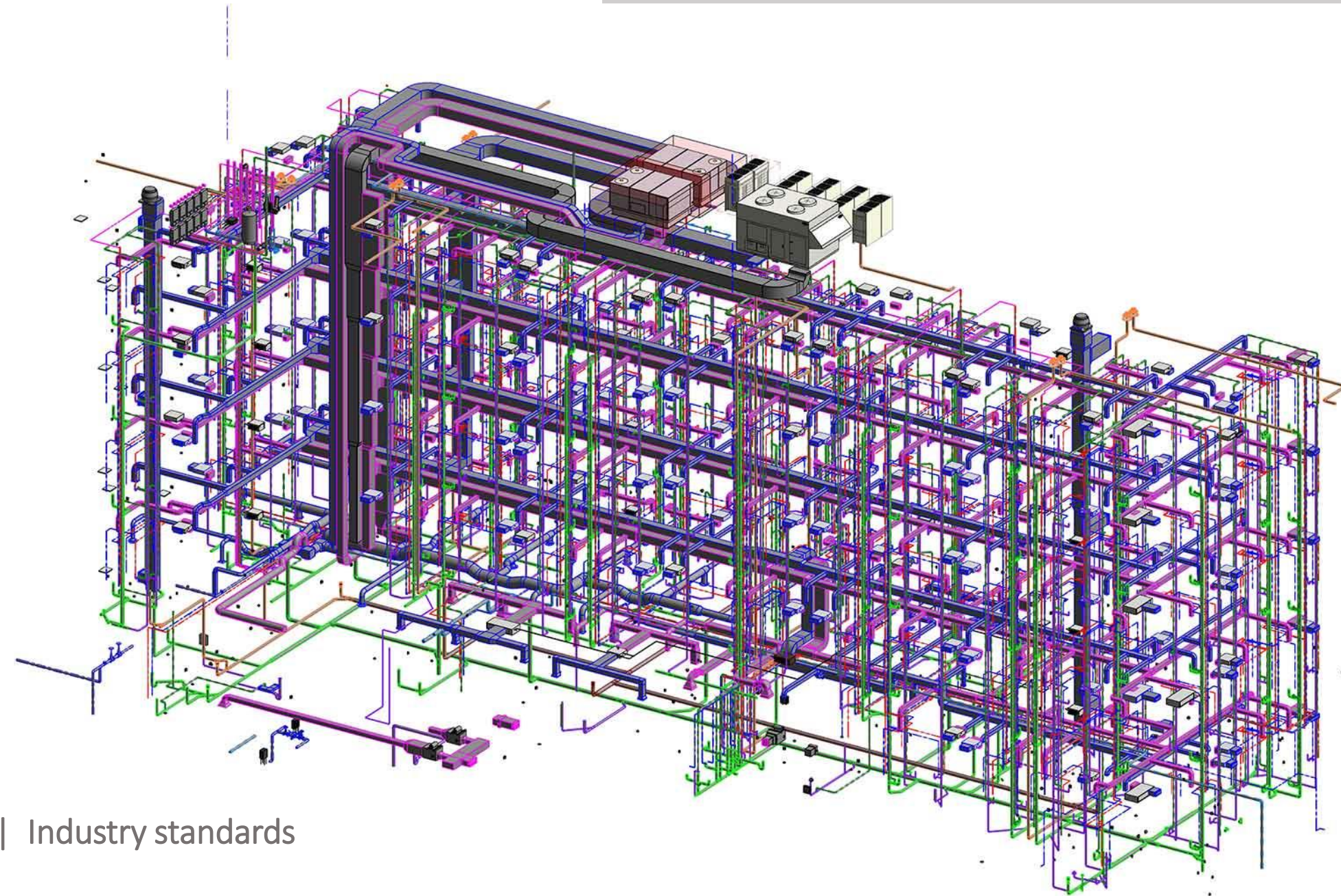
- Always check specification: total file size, attributes, and metadata
- Check compatibility with existing file's content
- Link files rather than merging/importing

8. NO QUALITY CHECKS

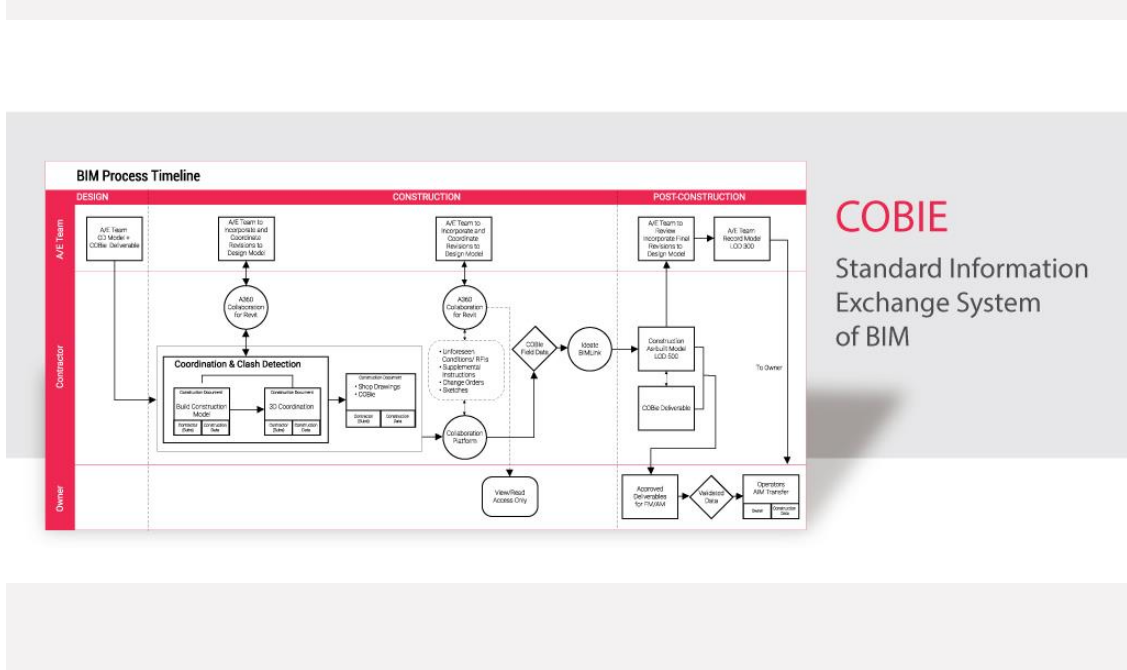
Architecture “Redlines” has been an age-old standard practice in architecture history to signify the correction and scope of improvement in design. We follow the same line of thought. Every project of United-BIM has to go through 3 levels of quality checks. It enables us to constantly audit and identifies the area of potential improvement.

Duplication | Misplaced elements | Constructability | Industry standards

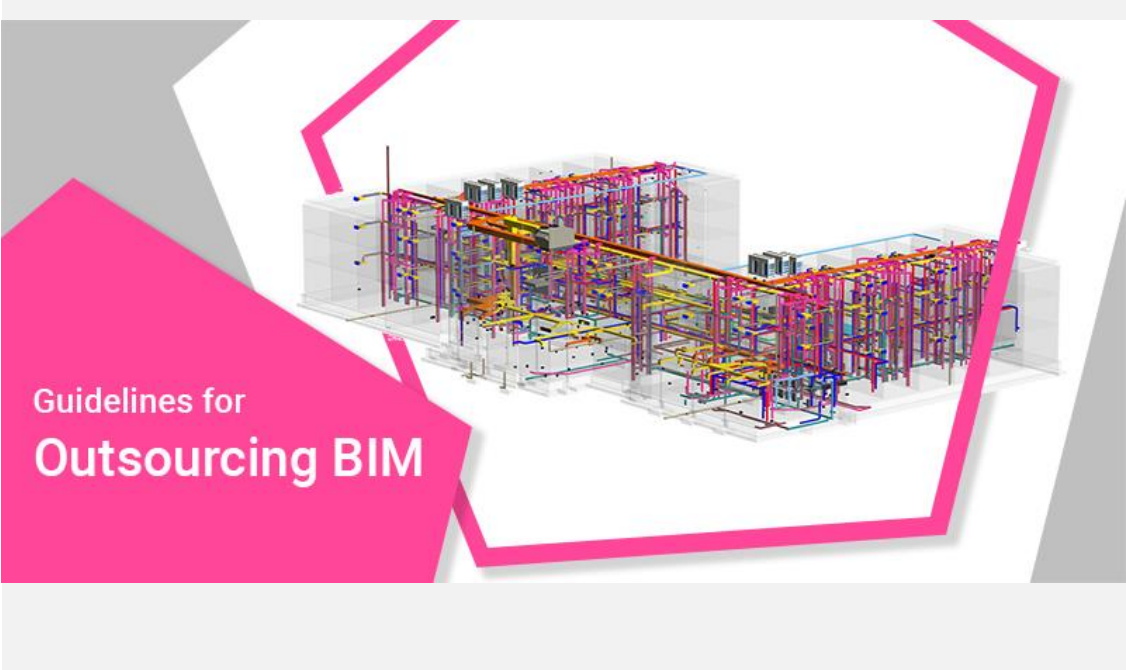
The practice of quality checks will not only improve your model design but also drawing consistency-accuracy and constructability.



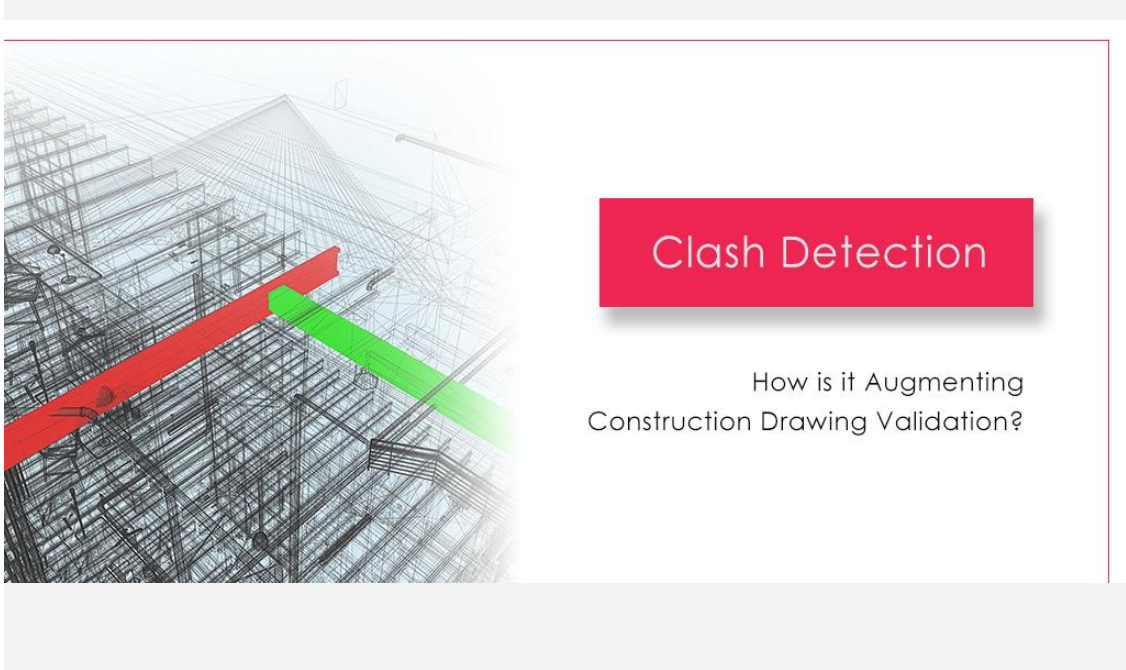
FEATURED BLOGS



COBie
Standard Information Exchange System of BIM



Guidelines for Outsourcing BIM
Key Takeaways for AEC Professionals



What is Clash Detection in BIM?
Process, Benefits and Future Scope in Modern Day AEC industry

REVIEW CHECKLIST FOR PERFECT DESIGN DRAWINGS

Review your design drawings to perfection with this easy to use drawing checklist, made for Architects and Engineers.

Download Now





 www.united-bim.com  info@united-bim.com

 +1 (954) 537-9137