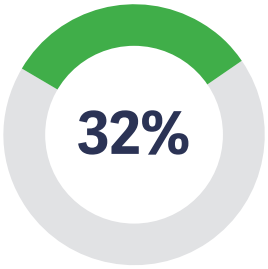
2D + 3D + Sage Estimating
= 5D BIM

Building a bridge between BIM and estimating

Once used exclusively by design firms, building information modeling (BIM) adoption among contractors and the construction management divisions of AEC firms is growing.

One way contractors are using BIM is model-based cost estimating (also referred to as 5D BIM). BIM tools integrated with estimating software enhance the estimating process in many ways. For instance, BIM construction objects can contain the dimensional information used by estimators, thus eliminating a time-consuming aspect of estimating takeoff. This allows the estimating team to spend more time on developing valuable cost saving strategies and refining numbers for greater cost predictability.



32% of contractors expect to increase their use of BIM in 2016.

2016 Construction Hiring and Business Outlook, AGC of America and Sage.

Estimating challenges with 5D BIM

While 5D BIM can provide many benefits from a value engineering and constructability standpoint, there are still roadblocks to its full adoption among estimating teams. For one, building information models typically don't contain all the information needed by estimators. A 3D model, for instance, may contain a pipe schematic with lengths, but estimators still need to refer to 2D drawings to take off the hangers. Or floor coverings may not exist in the model, but can be found on the 2D drawings. Today estimators must use time-consuming workarounds when faced with these issues.

Many estimators using BIM will acknowledge that the need for 2D plans—still the majority of their takeoffs—isn't going away any time soon, if ever. Some 2D takeoff tools may be available inside the 3D BIM software. However, it's generally recognized that these tools currently don't provide the same level of capabilities estimators require for 2D production estimating work. As a result, estimators may have to use multiple, unconnected 2D and 3D takeoff systems, complicating the process and increasing the chances for error.

Another estimating concern with 3D models is the lack of specifications. From a design perspective—particularly for independent architects—there may be little value to putting specs into the model. In fact, it may not be possible to build a model containing all the job specifications without impacting model size and performance. Designers may attempt to resolve this issue by creating links in the model to external specification documents. However, these links, which must be maintained by different stakeholders, can easily break as specifications change throughout the project.

The solution

Advances in estimating technology are now addressing these issues. Sage, eTakeoff, and Autodesk have combined efforts to come up with a best-in-class solution that will make it possible for estimators to do production estimating work concurrently with both 2D and 3D content. This streamlines the takeoff process and eliminates additional, error prone work. With the right technology tools in place, construction objects in a model can also be directly linked to assemblies in a customized estimating database. These assemblies contain the necessary specification variables used by estimators.

Moving forward

Today's contractors are looking for better ways to collaboratively work with owners and other project stakeholders to find the most cost-effective way to complete complex projects. 5D BIM, made more realistic with new technology, sets the stage for reaching that goal.

2D + 3D + Sage Estimating **= 5D BIM**

To find out more information, contact BIMintegration@sage.com

AUTODESK. sage eTakeoff

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