COMPANY
BAM Construction
LOCATION
U.K.
SOFTWARE
Autodesk® Navisworks®

Quantifying success

BAM Construction uses Navisworks to support quantification and costing

> Calculating quantities directly in Navisworks provides increased information and transparency throughout the team, which results in a much more agile and responsive process. We can go very quickly from assumed cost values to thoroughly vetted, accurate estimates for our clients—a win-win situation all around.
>
> **—Matt Quanbrough**
> Senior Estimator
> BAM Construction

Image courtesy of Getty Images.

The firm

BAM Construct UK is a leading construction and property company in the U.K., providing a range of services including design, services engineering, construction, facilities management, and property development. For many years, BAM has been using Building Information Modeling (BIM) processes and Autodesk BIM software to understand—prior to construction—how a building will function, how it will be built and maintained, and what it will cost. To support its construction services, BAM Construction (part of BAM Construct UK) has been using Autodesk Navisworks since 2009 primarily for multi-discipline coordination, clash detection, and construction planning.

The challenge

"When bidding on a project, it can take anywhere from two to six weeks to produce a bill of quantities," says Matt Quanbrough, a senior estimator for BAM Construction. "Depending on the size of the building, those two to six weeks may be up to half of the entire bid phase." Given the time-consuming nature of that effort, BAM typically used external quantity surveyors to generate quantities. This allowed BAM Construction personnel to spend more time interacting with the client and project team to get a better understanding of the overall project and therefore produce a more complete bid. But unfortunately, the improved project understanding was not reflected in the externally-generated bills of quantities.

The solution

In 2012, BAM began using Autodesk® Navisworks® to calculate bills of quantities in-house. "The software's quantification tools reduce the time needed for quantification—enabling our own estimators to undertake the effort," says Mark Taylor, a digital construction manager at BAM Construction. "In addition, the bills of quantities we produce now incorporate the broader bid team's project understanding, resulting in tighter, more accurate bids."

Navisworks helps BAM Construction collaborate more efficiently with its clients to manage the costs in a more productive and proactive manner. "Using Navisworks for quantification puts us in control of the quantities and therefore the costs and gives our clients more certainty," says Quanbrough.

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Quickly develop cost plans and eliminate the need for external estimating parties

Quantification in action

One of BAM's first use of Navisworks for quantification was for the construction of a new school building for Royds Hall Community School in Huddersfield, located in West Yorkshire, England. As of the fall of 2016, the six million-pound project provides space for an additional 420 primary school children. The new building is adjacent to the existing facility and the project also included a new external play area and an improved entrance road.

BAM was responsible for both the design and construction of the building. BAM Design used BIM processes and Autodesk Revit software for its design, and the Revit model (along with models of the other building disciplines) were combined in Navisworks for quantification, as well as project coordination, clash detection, and construction planning.

Model-based design helped BAM Design react very quickly to its client's needs. Revisions and change orders could be quickly incorporated into the design model. These changes were then reflected in Navisworks, allowing BAM Construction to easily update quantities. "Reporting quantities using Navisworks means there are no surprises," says Taylor. "And no surprises translates into more cost certainty and reduced risk for our client."

"When we used independent quantity surveyors to calculate quantities, we would often have to wait several weeks before we could evaluate the cost implications of a change," says Quanbrough. "By using Navisworks for quantification on this project, when changes occurred we understood the impact almost immediately."

The result

"Navisworks allows us to quickly develop cost plans in line with design and build processes, and it eliminates the need for external estimating parties," says Taylor. "Since we don't have to wait for them to coordinate with all the subcontractors, we can get bills of quantities much faster. This saves time for everyone involved in our projects, including our clients."

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For more information, visit
www.autodesk.com/navisworks

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> **– Mark Taylor**
> Digital Construction Manager
> BAM Construction

Image courtesy of www.examiner.co.uk.

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