

# Estimating and 3D Quantity Takeoff with BIM360

Michael Boren

CTO





## About the speaker

### Michael Boren

- Experience in construction both in the field and as an estimator.
- Vast majority of experience is developing and envisioning preconstruction technology.
- Passionate about construction
- Love to innovate
- Care about the people in this business



## About the speaker

### Andy Leek

- Extensive career in architecture & construction
- Has consistently led his company to the forefront of innovative technology
- Named a Top Tech Executive in St. Louis
- Passionate about enabling project teams to be more collaborative and efficient
- Focused on promoting integrated networks to maximize effectiveness

# Overview

Processes for connecting BIM 360 models to an estimate, places where you may struggle, and why integrating your models and your estimate is valuable.

The class will cover the use of BIM 360 and Beck Technology's DESTINI Estimator integration. We will explore how this integration came to be and why it is important for collaborative project teams. We will show how to connect to BIM 360 models from within the Estimator platform and perform 3D quantity takeoff for an estimate. We will show the tools' use on real-world projects and showcase future developments of the integration by using the Forge development platform.

# Learning Objectives

LEARN HOW TO USE BIM 360 AND ESTIMATOR FOR 3D QUANTITY TAKEOFF

LEARN HOW TO PREPARE BIM FILES FOR BETTER QUANTITY TAKEOFF AND ESTIMATING

DISCOVER OPPORTUNITIES FOR BIM MANAGERS AND ESTIMATORS TO COLLABORATE

LEARN HOW TO REDUCE THE AMOUNT OF TIME NEEDED TO PERFORM 3D QUANTITY TAKEOFF

# Using BIM360 for 3D Quantity Takeoff



# INSIGHT



# PROJECT IQ

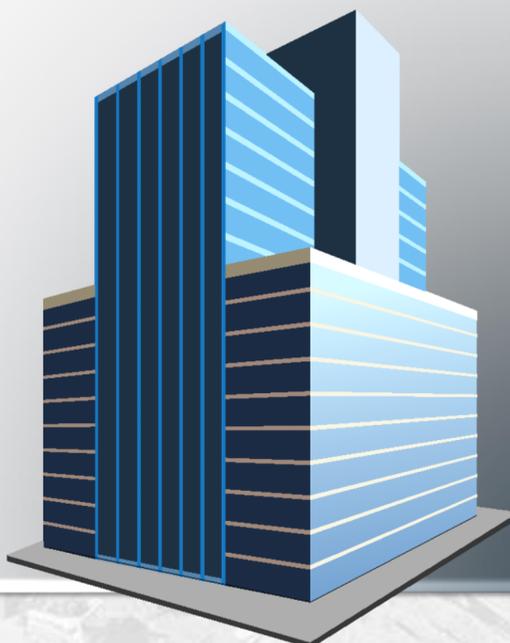
GLUE

FIELD

LAYOUT

DOCS

**B** AUTODESK® BIM 360™



ESTIMATING



PROGRESS



VR/AR



DRONE



SCHEDULING

# **Organizing the Model First & Direct Model Interaction**

# Different Model Formats and Authors



# Handling Different Model Formats and Authors

Put simply, different model formats come with different default data. This paradigm is also seen when working with different designers / model authors.



Have a  
few good  
starting  
points



Create a  
standard  
and get  
involved  
early

# Places Where You Will Struggle



# Places Where You Will Struggle

We are still on our journey to being able to get good quantities from a model and there are some pitfalls that you will hit along the way.

- **Some key quantities are not available yet**



Tiltwall  
panel area

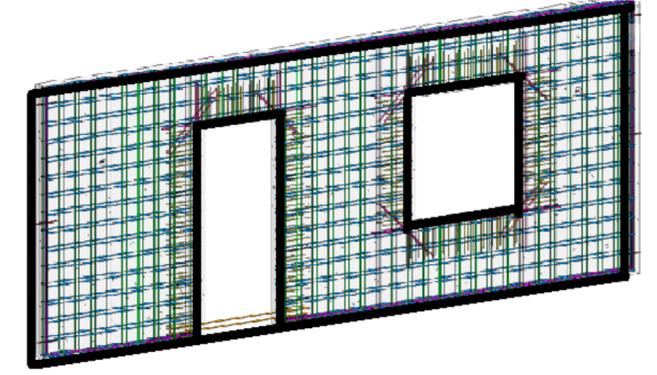
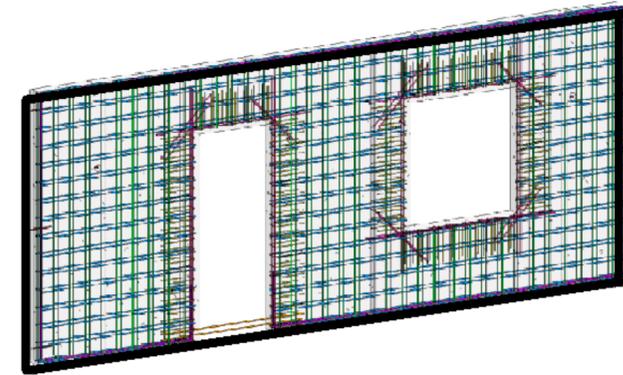
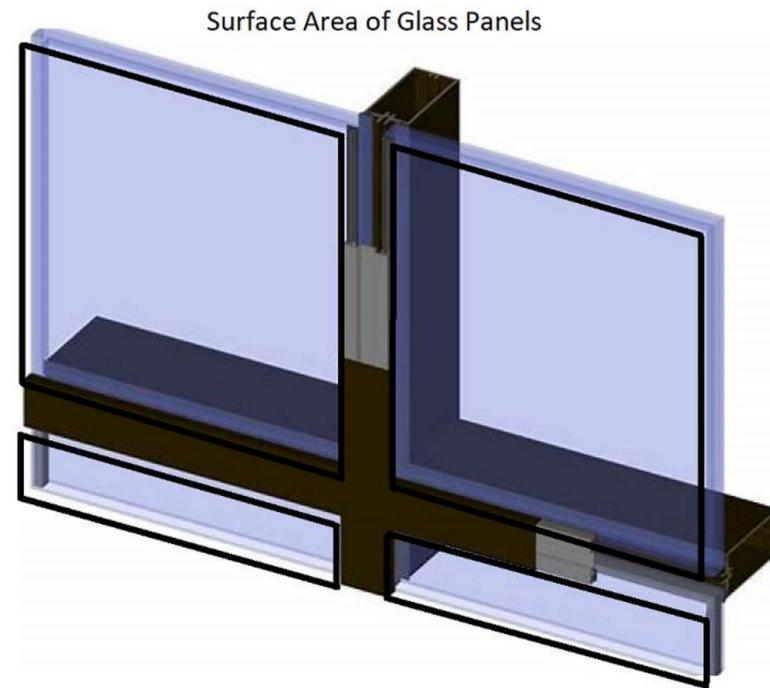
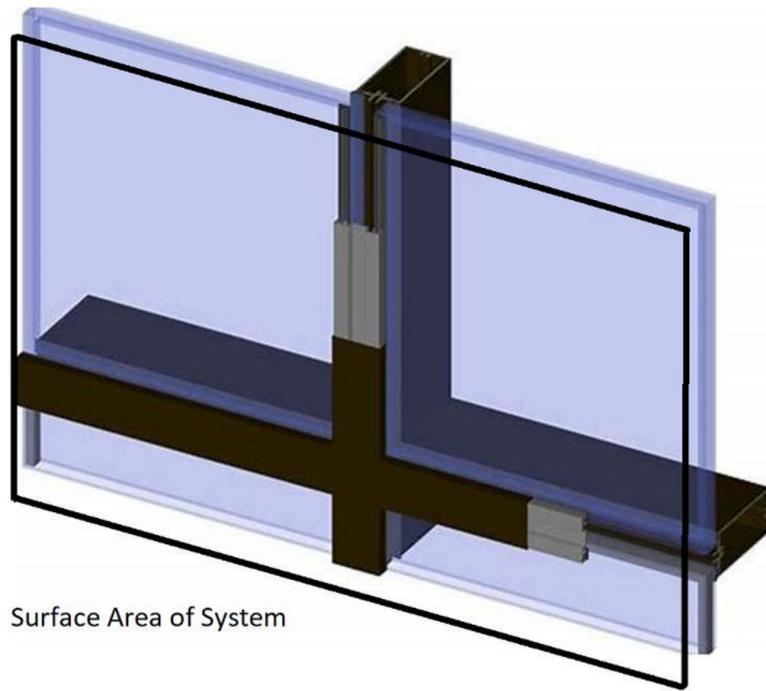
Curtainwall  
area

Sheetrock  
count

Steel  
column  
height

Cladding  
corner  
conditions

- **Sometimes you have to augment the model with estimate data**

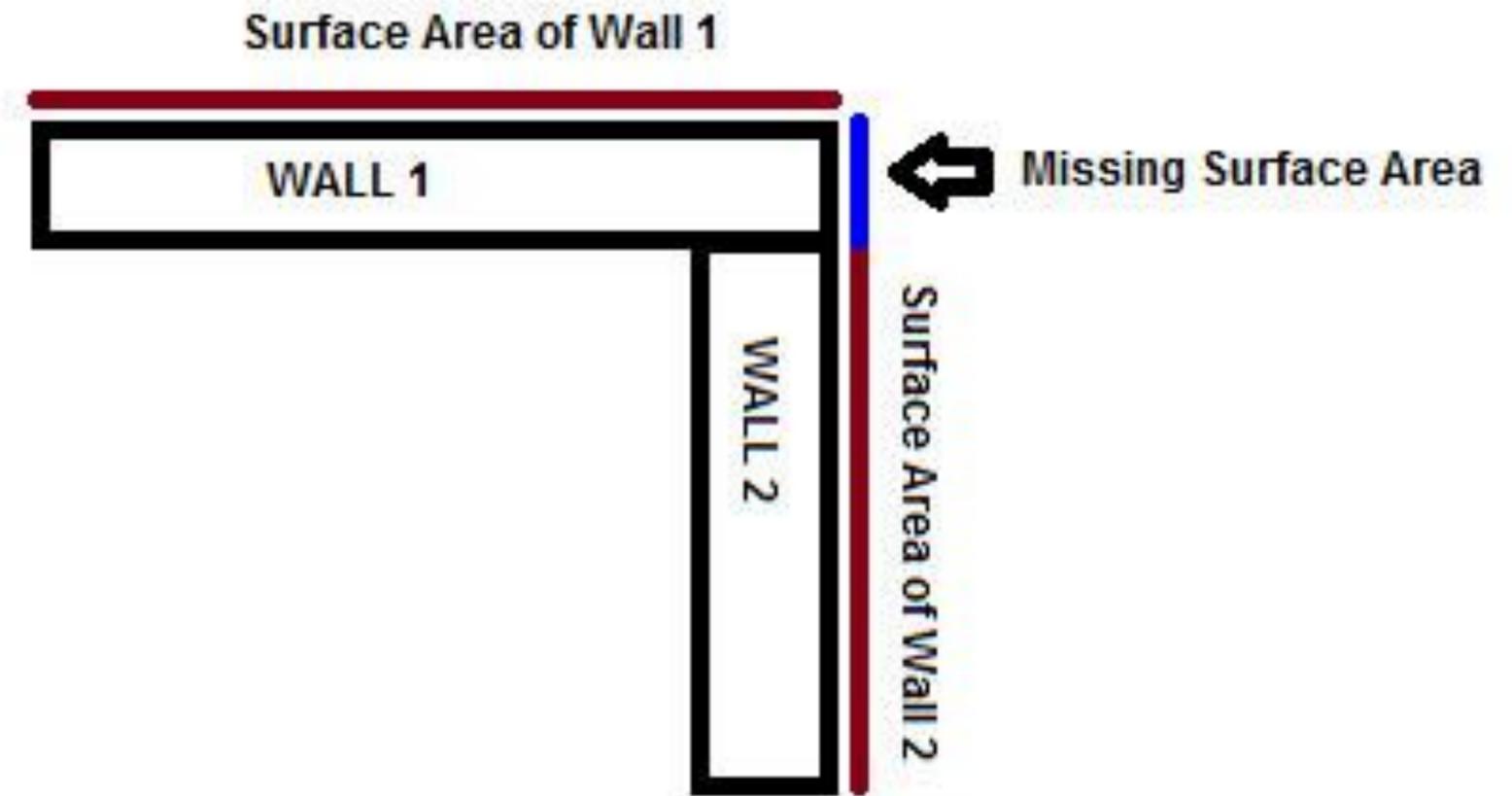
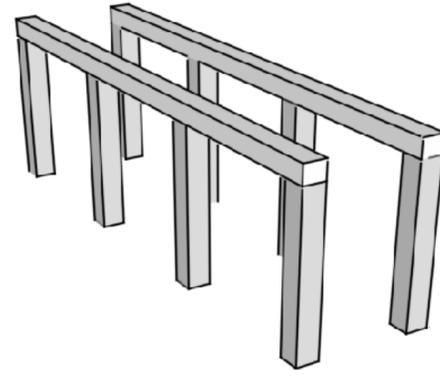
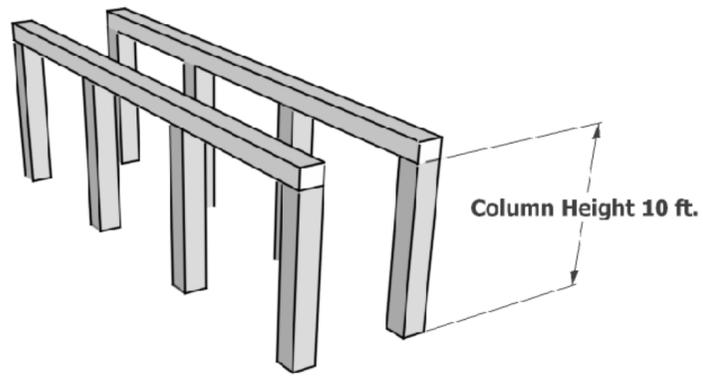


## Curtainwall Area

The Curtainwall system is comprised of glazed panels and mullions. For the purposes of estimating the area of the curtainwall system is required not the areas of the individual glazed panels.

## Tiltwall Area

Tiltwall systems host openings but the quantity reported is the overall surface area not the surface area less the openings as required.

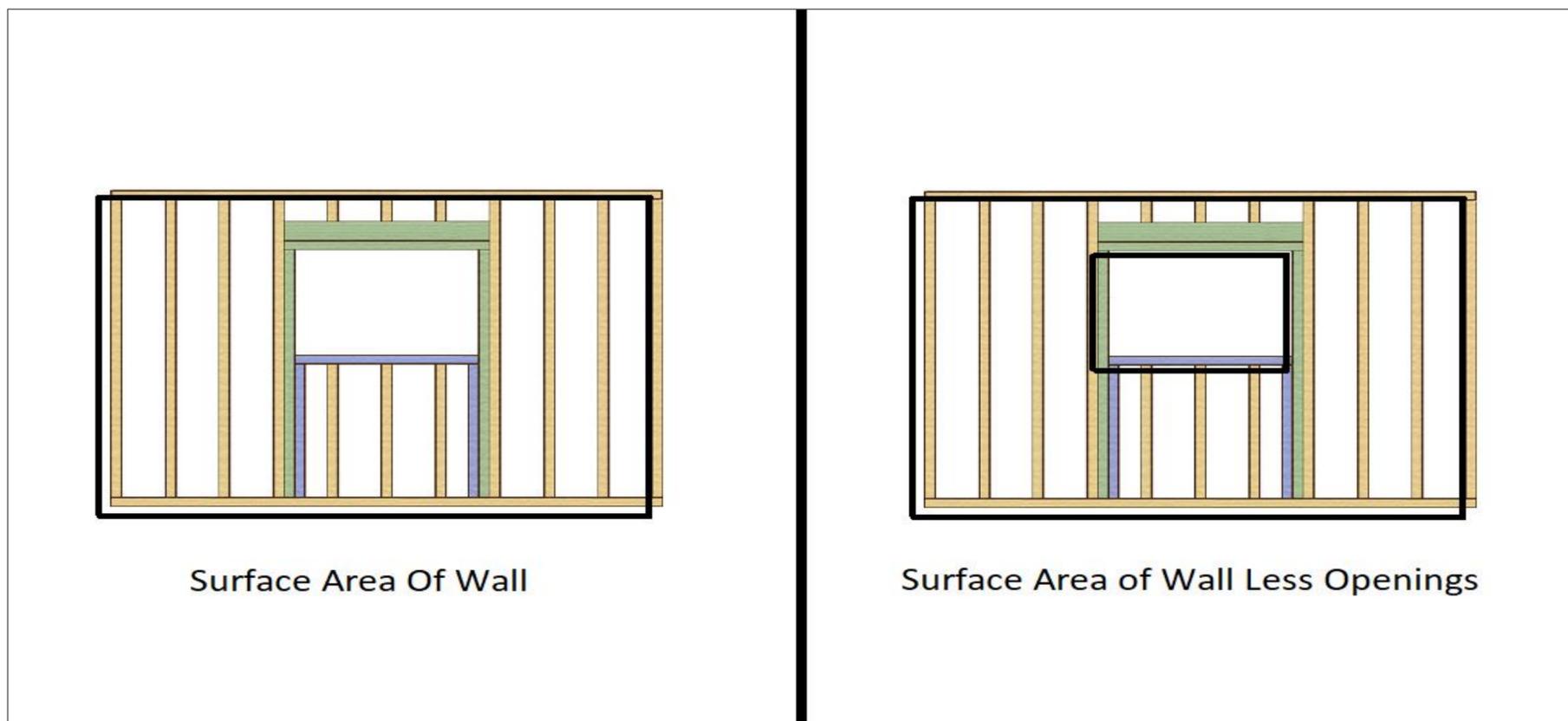


## Column Length

The length value of columns is not available and as such it is not possible to calculate the tonnage of steel.

## Cladding Corner Conditions

If the model has two adjacent exterior walls that have not been joined the area of cladding will miss the end cap area of the wall



## Wall Area

The quantity of sheetrock needs to include the area for any wall openings like doors and windows. Also it would be helpful to have quantities for single and double sided walls.

### **Sometimes You Have to Augment the Model Data with Estimate Data**

You will run into times where the model component does not have all of the property data derive its quantity entirely from its properties. When this happens, you need to augment with data in the estimate itself. Having the ability to make these changes on the fly is vital.



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# Handling Project Changes



By their nature every project will change **repeatedly** throughout the pre-construction process so every estimating process should have a **good plan** on handling changes to project scope.

# What You Get With Integrated Data



Getting quantities from a model is valuable but being able to **link the model components** with the costs offers value on a completely different level.



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