

COMPANY  
**Carlson Software**

LOCATION  
**Maysville, Kentucky, USA**

SOFTWARE  
**Takeoff OEM**

SOFTWARE DEVELOPMENT PLATFORM  
**AutoCAD OEM**

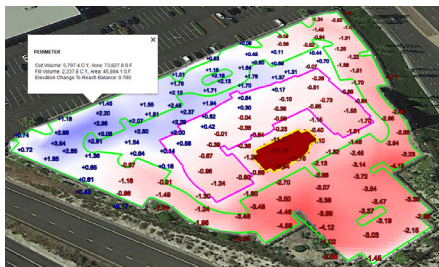
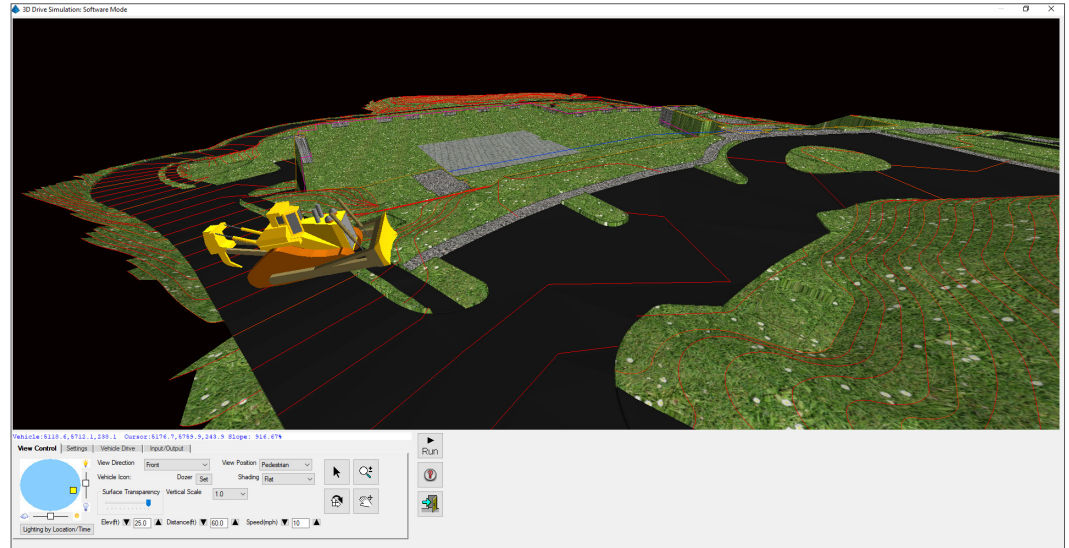
COMPANY WEBSITE  
[www.carlsonsw.com](http://www.carlsonsw.com)

# Tech Soft 3D Partner Success Story: Carlson Software

Carlson Software Uses AutoCAD OEM to Build an Innovative Product that Eliminates Rework for Site Contractors

"The larger civil engineering firms and the government agencies tend to feel more secure using the AutoCAD engine, versus other CAD offerings. They prefer to take as little risk as possible, and one way of doing that is to use an industry standard like AutoCAD."

- **Bruce Carlson, President, Carlson Software**



## The Challenge

Founded in 1983, Carlson Software specializes in CAD design software, field data collection, and machine control products for the land surveying, civil engineering, construction, and mining industries worldwide, providing one-source technology solutions from data collection to design to construction.

In its construction portfolio, the company offers Carlson Takeoff, which helps earth-moving professionals calculate site cut and fill volumes, set amounts for topsoil removal and replacement, accurately determine subgrade quantities, and otherwise better estimate large commercial, subdivision, and heavy highway construction projects for bidding purposes. The product is available in two configurations: Takeoff OEM and Takeoff Suite.

"Takeoff OEM is geared towards creating a digital terrain model (DTM) – a 3D

representation of the terrain's surface – based on the information provided in a 2D drawing supplied by the designer," explained Bruce Carlson, president of Carlson Software. "These drawings are rarely accompanied by a DTM file during the handoff – so, contractors have to make their own DTM to estimate the job or for use in downstream applications. I'd estimate that happens in close to 90% of the handoffs from designers to contractors."

This inefficiency – which has persisted into the digital age – creates significant extra work for construction firms of all sizes.

"Contractors are left to fend for themselves," said Carlson. "They have to extract information from the .pdf, .dwg or .dgn source drawing to try to create the DTM. It's really a tragedy of inefficiency, and it's why we developed Takeoff."

## A Proven CAD Engine and Powerful Functionality in One Package

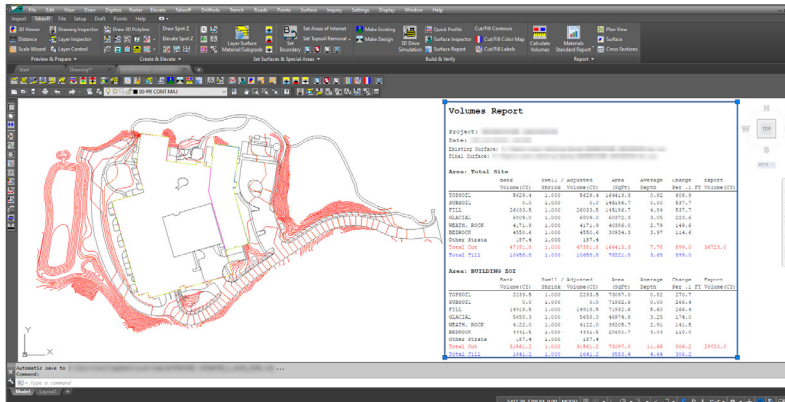
To develop Takeoff  
OEM, Carlson  
Software found  
AutoCAD OEM to be  
the ideal solution.

Exclusively resold by Tech Soft 3D, AutoCAD OEM is a platform for rapidly building applications, using the world's most proven CAD system as its foundation. The AutoCAD OEM development platform provides a full no-license-required version of AutoCAD and access to robust 2D and 3D functionality.

"There are a couple of reasons why some of our customers prefer to get the Takeoff OEM configuration, as opposed to running Takeoff on top of their own CAD platform they've purchased," said Carlson. "One is that when they buy the OEM version, they get exactly what they need and expect from the industry standard AutoCAD platform, with catered functionality to the construction and land surveying industries – and they get it for a comparable price. Also, they own it, since it's a perpetual license."

Carlson also noted that since it provides access to a trusted and proven CAD engine, the AutoCAD OEM platform inspires confidence in a variety of customer segments seeking to minimize potential risk.

"The larger civil engineering firms and the government agencies tend to feel more secure using the AutoCAD engine, versus other CAD offerings," said Carlson. "They prefer to take as little risk as possible, and one way of doing that is to use an industry standard like AutoCAD."



Beyond providing access to an AutoCAD engine and the proven performance associated with it, Takeoff OEM enables a seamless handoff of information from designers to contractors, eliminating rework.

“Our Takeoff OEM interprets what is on the drawing in the form of text and contour lines that indicate surface elevations,” said Carlson. “It even makes use of cross section and profile data. Pulling that information from those 2D drawings helps contractors estimate a job more accurately to win the bid, and then it helps them build the 3D DTM for the next phases of construction.”

Overall, Carlson Software is proud of Takeoff OEM's role in creating a more efficient connection between design and construction, reducing duplicated efforts on construction projects in the United States and around the world.

"Takeoff OEM addresses a specific problem within our industry head-on and delivers real value," said Carlson. "At the end of the day, that's why customers use our software, and that's why we've been in business for nearly 40 years."

**Industry:**

- Construction;  
Land Development

## Challenge:

- Information handoff from designers to contractors often only includes 2D drawings
- Accurate construction estimation difficult to achieve without 3D digital terrain models
- Construction professionals are forced to spend valuable time recreating digital terrain models based on 2D drawings provided

### Solution:

- AutoCAD OEM allows the development of innovative niche products that tap into the full functionality of the AutoCAD engine while addressing unmet market needs

## Results:

- Create a more seamless transfer of information from design phase to construction
- Eliminate rework around creation of digital terrain models
- Leverage the trusted and proven functionality of the industry standard for CAD
- Enable more accurate construction estimates, enhancing ability to win bids

**Contact Tech Soft 3D to learn more about how AutoCAD OEM can help you develop a custom product that fills unmet needs in the market.**

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