## **Carlson Machine Control** for Quarries



Carlson Machine Control equips sites with customized machine control systems. From a single machine to an entire fleet. Carlson's GPS-based solutions can be uniquely fitted to loaders, crawler drills, vertical drills, dozers, excavators, shovels and more. Operators can have a real-time view of their position and projects assigned to them while supervisors have a complete view from within the office using Carlson Command.

- Use measurable results and remove the quesswork
- Cut survey costs
- Record and track output
- View pit floor cut/fill
- Monitor operator uptime and idle time



Carlson MC-8/MC-10





Applications since 1996 - Mining - Landfill - Piling - Dredging -- Construction - Contract Drilling - Custom Applications

#### **Benefits**

- Flexible, easy-to-use, and easy-to-learn
- Consistent UI across all machines
- Multiple view options: profile, section, and plan
- Peer-to-peer communication and information sharing
- Ready for a single machine or complete fleet
- Features CAD importation capability
- · Real-time machine view
- NTRIP and VRS compatible
- Troubleshooting capability from anywhere in the world

## Real-Time, GPS-based Software and Technology Solutions for Machines

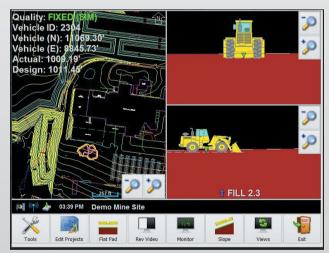
- Real-time cut/fill color map and on grade indication
- Real-time updates to surfaces
- Real-time machine tracking
- Operator views and pre-start checks
- Dig-to-design utilizing existing surfaces or block models
- Build-to-design for better highwall construction and proper bench elevation

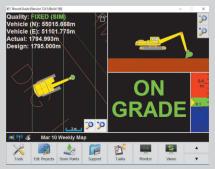
## **Improve Site Safety and Reduce Incidents**

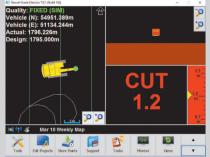
- Increase operator situational awareness through proximity warnings between machines and fixed assets
- Increase operator awareness by utilizing 2D and 3D watch zones and warning zones
- Increase safety for surveyors and engineers by reducing survey time in the field



Carlson Grade Supervisor allows for quick, on-the-go site management and inspection. The Carlson BRx7 offers best-in-class RTK GPS capability while Grade Supervisor runs on the ruggedized, Windows-based tablet, the Carlson RT4.



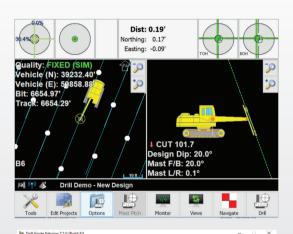






#### **Drill Features**

- · Complete view of drill pattern layout
- Accurate hole navigation
- Elevation and hole depth indication
- Synchronization with existing onboard systems
- Options for hole tagging for blasting engineers
- Works with Atlas Copco, FlexiROC, SmartROC, PowerROC, and more





# Effective Grade Management with Carlson Grade Supervisor

- Carlson Grade Supervisor enables quick inspection and grade checks for day-to-day surface and grade management and monitoring
- Simple-to-learn and simple-to-use, Carlson Grade Supervisor provides direct import of DWG and DXF files, including TN3, GC3, LN3, TIN, GRD and more
- Eliminate the need for a separate base station and save with NTRIP compatibility
- Easily manage layers
- Complete in-the-field 3D volume calculations with visual PDF reporting

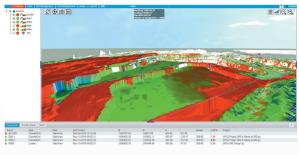




#### In the office or remote location

- Generate efficiency reports
- View daily work area reports
- View real-time cut/fill color map of the site in your office
- Replay machine movements
- Manage machine files
- Machine timeline views







### **Carlson Quarryman Pro for Bench and Profile Scans**

The Carlson Quarryman Pro is the 3D laser-scanning system of choice for quarries around the world. It is intuitive to use, portable and rugged. and carefully designed and tested to make it robust enough to operate in

the toughest

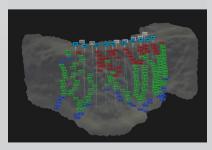
environments.





### **Carlson BlastOPS for Blast Pattern Layout** and Design

Analyze, Design, and Edit your Blasts. Utilize point clouds, meshes, and borehole deviation information for blast optimization, Carlson BlastOPS delivers information essential to drilling & blasting. Drilling information can be sent via Carlson Command for drill rig guidance, which can return updates to the office for a field-to-finish process.



### Carlson Boretrak2 for Borehole Measurements at any **Inclination**

The Carlson Boretrak2 is a single-operator borehole measurement system. It is trusted worldwide to survey drillholes, ensuring no hole deviations during the drilling process thus reducing the risk of dangerous flyrock. Featuring an internal IMU, the Boretrak2 can be deployed at any inclination: uphole, downhole, horizontally, or any angle.





