



# Rock and Block Placement

## TRIMBLE MARINE CONSTRUCTION SOFTWARE

Trimble Marine Construction software improves productivity and efficiency in underwater construction applications. It provides accurate 3D visualization to assist the operator with underwater construction tasks.

### Accurate placement

Trimble Marine Construction software for armor rock and block placement applications is a powerful tool to help construction contractors improve productivity and efficiency. The operator has a real time view of the excavator, crane and barge in plan and profile views. Profile displays show tool depth along with the surveyed and design depths.

### Real time visualization and monitoring

Real time views of the machine in plan and profile views display the block or grapple, design depths and color-coded Digital Terrain Model (DTM). The DTM highlights the high and low spots relative to the design and is updated in real time, tracking the progress of the construction project. The surface is updated in real time based on the block or material placed and the material's characteristics. The sonar option can scan after placement for a more precise surface updates and greater quality control.

### Real time seafloor and design

Up/down indicators show the operator the exact distance to the design surface continuously. The software supports complex 3D designs.

### Workflows

The software makes it easy to select block designs and monitor the block placement process. Block position is calculated by the crane's position and measuring the angle and pay out of the hoisting wires. If the wire is not vertical due to tide or current, a laser can be added for improved positioning.

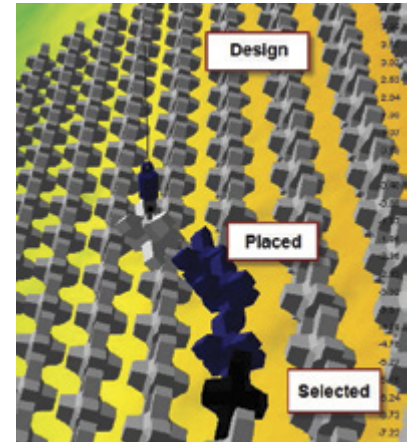
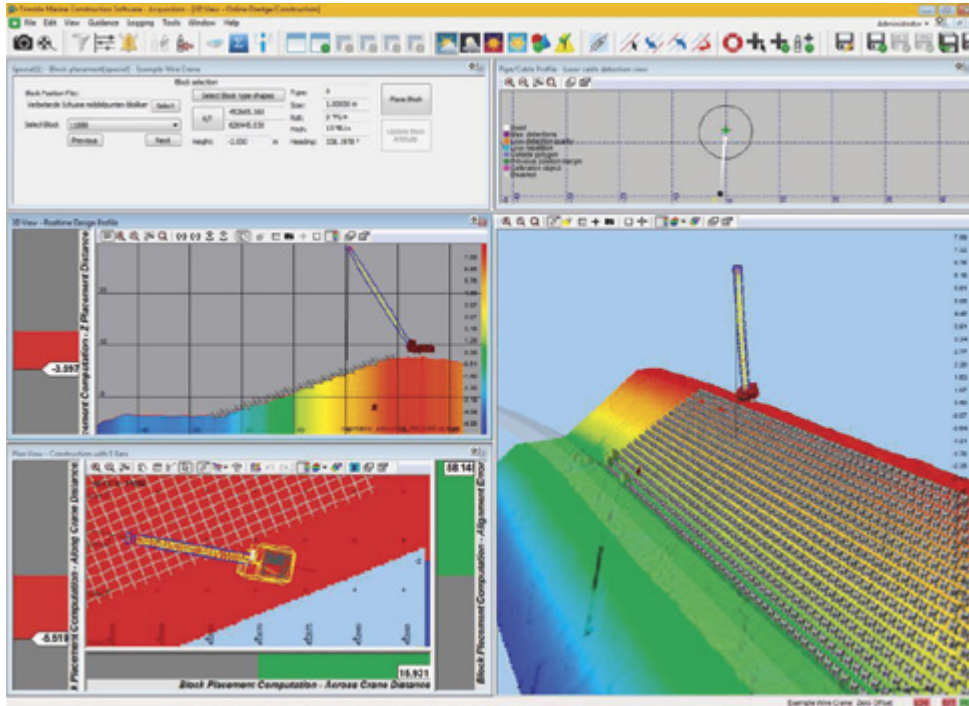
### Customizable interface

Multiple monitors with independent layouts can be tailored to the needs of the operator. A color-coded plan view and 3D view highlights surface high and low spots. The surface Digital Terrain Model (DTM) is updated in real time registering construction progress showing depth, differential and production models.

## Features

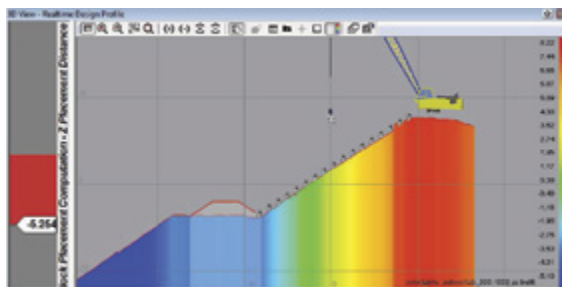
- ▶ Robust and reliable solutions maximize uptime
- ▶ Supports real time sonar inputs providing as-building capability
- ▶ Continuous data logging for as-building and volume reports
- ▶ Tolerance visualization provides guidance for accurate, efficient dredging and placement productivity
- ▶ Administrator can configure the screens for a specific workflow/user and lock it down for the operator
- ▶ Import or build project design and survey models in the office or field for operations
- ▶ RTK can be used for precise tide and heave measurement
- ▶ Barge or land-based workflows
- ▶ Third party laser for non-vertical wire
- ▶ Third party detachable sensor for block orientation during placement





Trimble Marine Construction software block placement - 3D view

Trimble Marine Construction software placement application - design view



Trimble Marine Construction software placement application - design view

## About Trimble Marine

Trimble offers flexible, high-performance positioning systems to meet the unique needs of marine construction on both simple and complex projects. Solutions include both hardware and software, and can be easily integrated into third-party systems. The portfolio includes marine information systems (e.g. Trimble Marine Construction software), GNSS receivers, antennas, radios, encoders, depth gauges and inertial positioning systems.



Trimble Marine Construction software is transforming the way marine operations work by helping build and maintain the world's port, river, canal and other critical infrastructure. Trimble continues to transform this industry's work across the project lifecycle through sophisticated planning and design, advanced automation solutions, site positioning, and real time connectivity.



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