



MINING & CONSTRUCTION



Blast Design
Stockpile Volumes
Facility Mapping

GPS Laser Offsets, Geological Mapping, Environmental Impact
Build Verification, Crane Positioning,
Site Inspection, and Material Estimation

PROFESSIONAL MEASUREMENT



▶ **BLAST DESIGN**

Laser profiling is a key component for designing a perfect blast with better fragmentation control. Together, the LaserSoft® Face Profiler app and TruPulse® laser rangefinders accurately measure profiles and will minimize fly rock and vibration. Take range measurements directly to a bench face, measure offsets, clearances, and slope grades on roads and faces. Reporting meets MSHA requirements and can be printed in the field.

- ▶ Calculations and adjustment: remove slough at toe and overburden
- ▶ Results for drill hole angle, offset, and depth
- ▶ Calculate bench height and depth vs. burden data
- ▶ Interactive profile screen to ensure quality
- ▶ Increase worker safety and meet OSHA regulations
- ▶ Produce highly accurate field measurements
- ▶ Durable, rugged, and weatherproof TruPulse laser rangefinder models



STOCKPILE VOLUMES ▶

LTI's reflectorless technology with the LaserSoft MapSmart app solution is the quickest and safest method available for collecting stockpile measurements. A single operator can gather and record volume and weight calculations right in the field without needing to occupy positions on the pile using a prism or GPS pole.

- ▶ Eliminate guesswork
- ▶ Report volume and tonnage data
- ▶ Capture images for documentation

Measure to almost any surface without the need of a reflector: aggregate, coal, wood chips, asphalt or anything else you inventory.

- ▶ Slope grades and heights
- ▶ Repeatabile and accurate results
- ▶ Quick and easy workflow
- ▶ Real-time calculations

INDOOR

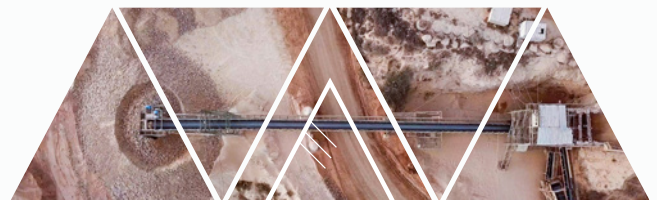
- ▶ Measure volumes of material stored in bins or up against a wall
- ▶ Measure as often as you want and stay in control of your data
- ▶ Create a template and measure consumed or added material
- ▶ Resection technique for easy positioning



▶ **GEOLOGICAL MAPPING**

Map a mine's entire surface; even unreachable visible structures on high walls, inclines, and inaccessible or dangerous areas. Safely collect precise measurements and production data by you or one of your crew members.

- ▶ Calculate the perimeter and area of any boundary
- ▶ Increase your efficiency in the field
- ▶ Track structure in mine faces and outcrops
- ▶ Verify distances, offsets, heights, slope grades
- ▶ Long range measurements to almost any surface
- ▶ LaserSoft MapSmart will export maps into CAD/GIS



FACILITY MAPPING

Crane Positioning

Instantly spot check obstructions and overhang clearances to ensure a safe work area. Quickly determine your crane's load placement point from one location and easily know your reach-in/up distance.

- Measure boom tip heights
- Clearances to power lines
- Determine your load placement point

Build Verification

Quickly check that construction has been built to spec by making distance, slope, and height measurements directly to material. Easily verify your contractors work has been done properly.

- Measure grade of slopes that have been cut
- Verify surfaces are flat, plumb and at right angles
- Confirm spacing between pylons, posts and anchor points



Site Inspections

Keep up with all the incoming permit requests, verify assets from a safe remote location, and receive precise measurement data. Map large work sites quickly and accurately using laser rangefinders and LaserSoft apps.

- Measure elevations and slope grades
- Locate all facilities within the job site
- Integrate with GPS/GNSS systems for remote positioning

Material Estimation

Easily determine what quantities you'll need for the job. Measure your required targets with a few quick shots. Add measurements together as you go and have your totals displayed when done. Estimating the material needed for a job has never been more simple.

- Measure cut and fill
- Calculate Area and Volume
- Send the measurements right to your phone

MEASUREMENT SOLUTIONS

2D LASERS

Measures: SD and INC

Calculates: HD, VD, HT, and 2D ML

3D LASERS

Measures: SD, INC, AZ, and Angle Values

Calculates: HD, VD, HT, and 3D ML

LaserSoft® APPS

➤ Measure, WorkSite,

➤ CORE, FaceProfiler

HD = HORIZONTAL DISTANCE

INC = INCLINATION

SD = SLOPE DISTANCE

ML = MISSING LINE

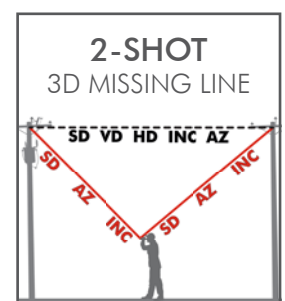
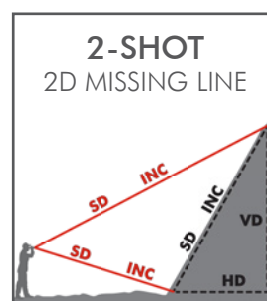
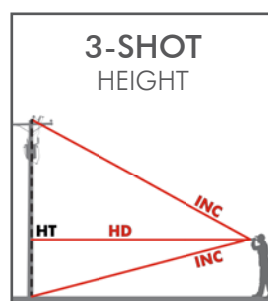
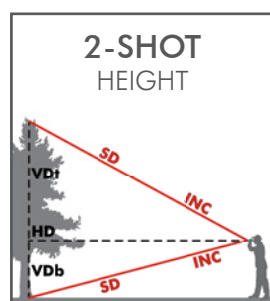
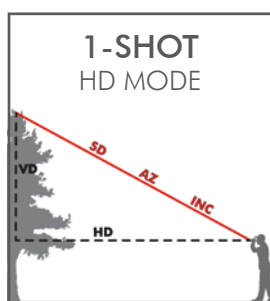
AZ = AZIMUTH

HT = HEIGHT

VD = VERTICAL DISTANCE

Calculated by TruPulse

Measured by TruPulse



PRODUCT SPECIFICATIONS



2D LASERS	TruPulse® 200L	TruPulse® 200	TruPulse® 200X	TruPoint™ 200h
Distance Accuracy to Typical Targets	± 0.5 m (1.6 ft)	± 0.2 m (8 in)	± 4 cm (1.5 in)	Pulse: ±2-4 cm (0.8 - 1.5 in) Phase: ± 1.5 mm (0.05 in)
Max Range to Reflective Targets	1750 m (5,740 ft)	2000 m (6,560 ft)	2500 m (8,200 ft)	Pulse: 500 m (1,640 ft) Phase: 100 m (328 ft)
Inclination Accuracy Inclination Accuracy	± 0.5° Relative	± 0.25° Typical	± 0.1° Typical	± 0.1° Typical
Wireless Communication / App Compatibility	No	Windows® + Android®	Windows® + Android® + iOS	Bluetooth® Classic & BLE



3D LASERS	TruPulse® 360°	TruPulse® 360° R	TruPulse® 200X & TruAngle®	TruPoint™ 300
Measures Azimuth with TruVector Compass Technology	Yes	Yes	No	No
Distance Accuracy to Typical Targets	± 0.2 m (8 in)	± 0.2 m (8 in)	± 4 cm (1.5 in)	±1 mm (0.04 in)
Max Range to Reflective Targets	2000 m (6,560 ft)	2000 m (6,560 ft)	2500 m (8,200 ft)	0.05 up to 300 m (0.16 to 1000 ft)
Inclination Accuracy	± 0.25° Typical	± 0.25° Typical	± 0.1° Typical	±0.1° Typical
Angle Accuracy	N/A	N/A	Horizontal +/- 0.1°	± 0.1° Horizontal and Vertical
Azimuth Accuracy	± 0.5° RMS; Typical	± 0.5° RMS; Typical	N/A	N/A
Wireless Communication / App compatibility	Windows® + Android®	Windows® + Android®	Windows® + Android® + iOS	Bluetooth® Smart, WLAN

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