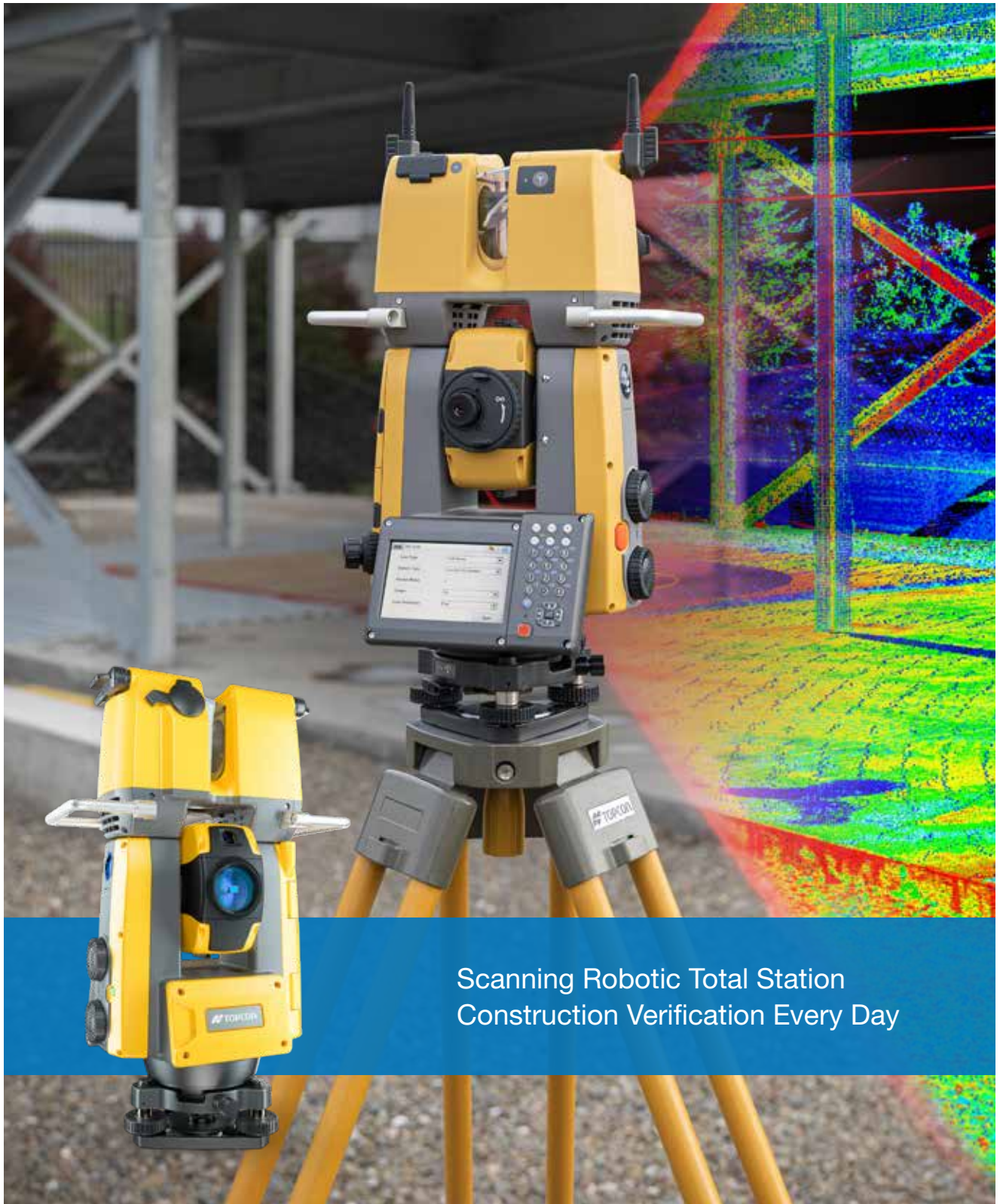


# Real-Time Reality Capture Solution

GTL-1200



Scanning Robotic Total Station  
Construction Verification Every Day

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# Construction Verification Every Day

GTL-1200

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**Quick layout and scanning with a single instrument**

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**Wi-Fi enables point clouds to be transmitted wirelessly**

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**Proven robotic total station design, integrated with a scanner**

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**Full dome scan in seconds, now with 2x point cloud resolution**

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**Scan density tailored to minimize software processing time**

---

**Point clouds accurately matched to BIM model coordinates**



With this new instrument, one person can cut the time of a conventional topo in half and we no longer have to do the extra day of time and labor for that floor flatness and floor levelness report. That translates to a savings of around 60% in labor costs per pour.



**Edgar Valenzuela**  
TAS Concrete engineer

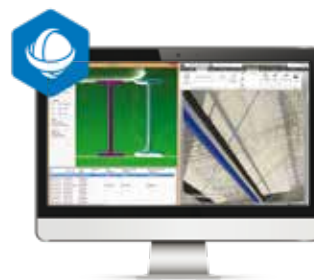


## Point Cloud Processing

### **MAGNET® Collage, Collage Web and Collage Site**

Collect, process, and analyze point cloud data from the GTL-1200.

- Effortless point cloud registration process
- Web-based sharing of point clouds and meshes
- Faster processing with true GPU utilization
- Integration with construction verification workflows
- Visualize scan data directly from a computer tablet



## Construction Verification

### **ClearEdge3D Verity for Navisworks®**

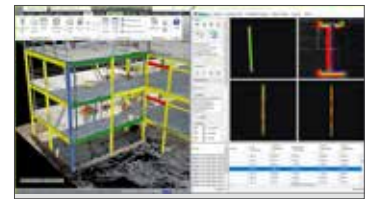
Verify construction quality in a fraction of the time by comparing as-built scans to BIM design and fabrication models.

- Reduce risks to budgets and schedules
- Clear indication of whether as-builts are within tolerance
- Increase project profitability by avoiding rework
- Fully integrated with Autodesk® Navisworks
- Quickly update coordination model to as-built conditions



## Simplified Construction Verification Workflows

Our scanning solutions help you work more productively, more efficiently, and keep teams better informed. Together with ClearEdge3D Verity, the simplified verification workflows cover a range of applications, including documenting job site as-built conditions and performing construction verification to ensure project accuracy is built 100% to plan.



### LAYOUT/SCAN

- Quickly layout and scan with the GTL-1200
- Take full-dome scans and panoramic photos at every set up

### PROCESS

- Collect, process, and analyze 3D points clouds with MAGNET Collage or Collage Site
- Streamlined export to Autodesk Navisworks software with native .RCS files

### VERIFY

- Rapidly compare BIM design against as-built elements with Verity for Navisworks
- Quickly resolve critical project issues

**FINISH**

10%

**TOPCON CONSTRUCTION VERIFICATION WORKFLOW**

**TRADITIONAL VERIFICATION WORKFLOWS**

START

FINISH





## Increase Productivity and Reduce Costs

Current construction industry estimates show rework and delays bring about 20% higher costs versus budget. Traditional spot checking of completed work leaves verification gaps that result in significant cost overruns and lost profits.

### The Topcon real-time construction verification workflow:

- Offers complete scan versus BIM construction verification that's 10 times faster than traditional methods
- Transforms spot checking to a digital real-time reality capture solution to layout, scan, and verify every day
- Provides digital reports with visual heat maps combined with numerical offset data for as-built confirmation

### Applications include:



**Mechanical / Plumbing**



**Structural Steel**



**Structural Concrete**



**Plant / Equipment Installation**



**Layout**



**Prefabricated / Modular**



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# GTL-1200



## GTL Scanning Robotic Total Station

A versatile Scanning Robotic Total Station that delivers advanced BIM workflows for the 3D professional. The GTL-1200 provides ultra-powerful, full-dome scanning for survey-grade georeferenced 3D modeling. It's ready for even the most demanding jobs, with a casing that's waterproof and dustproof. MAGNET® Field software is onboard for intuitive operation with increased productivity.

### FEATURES

- Combined laser scanner and high-resolution camera
- Powerful EDM
- IP54 Rating
- Bluetooth® / WLAN
- Laser plummet (Optional)
- On-board and removable data storage

SCANNING	
Method, Source, Class	Pulse(TOF), 870nm, Class1
Beam Spot Size, Divergence	60 x 27 mm at 30 m
Accuracy   Dist., Ang., Pt	16 mm at 30 m, Sigma 30", 10 mm at 30 m
Precision / Noise	5 mm at 10 m
Range (KGC 90%)	0.6 - 70 m
FOV	360° x 270° (H x V)
Scan Speed	200 KHz (200,000 points per second)
IMAGING	
Tele	5 megapixel, 60°(Diagonal)
Wide / Panorama	5 megapixel, 135°
TILT	
Range, Accuracy, Resolution	±6', ±4", 1"
PLUMMET	
Method, Accuracy, Spot size	Optical/Laser(OP), 1.5 mm at 1.5 m, 2.5 mm at 1.5 m
Height Sensor	N/A
Plummet Camera	N/A
TOTAL STATION	
EDM, Track / Aim	1000 m (NP), 800 m
COMMUNICATION	
Serial Communication	RC232C / USB2.0
Wireless communication	Bluetooth® Class 1 / WLAN
DATA STORAGE	
Internal, External	1GB, SD (for Scan) / USB
DISPLAY	
Display, Key	4.3 inch VGA w/TP, 24 Keys + 2 Keys
SPECIFICATIONS	
(P)Plate, (C)Circular level (w/o tribrach)	(C) 10 1/2 mm (Optional)
GUIDE LIGHT	
Guide Light, Laser pointer	5.0 - 150 m, Class 2 Laser (Optional)
ENVIRONMENTAL	
Water proof, Operating Temp	IP54, -10°C to 50°C
Battery	Li-ion 7.2V / 5.2Ah
Weight (Main + Battery), Size (H x W x D)	7.3 kg, 430 x 190 x 230 mm

