BuildingPoint

Building Construction Field Solutions

Connecting the field and the office

Contents

Construction Scanning Solutions

TRIMBLE X7 3D Laser Scanner

Construction-Ready 3D Laser Scanner

View scan data, 3D models and field layout points at the same time on a tablet controller while in the field.

Support a Variety of Tasks
No matter what you need to do, the X7 can do it. This includes: renovations, as-built verification, laser layout, precast set up verification, prefabrication skid QA/QC, post tension cable verification and more.

Trimble Registration Assist
Increase your field productivity with full registration of the point cloud without any additional software.

Full Visibility
View scan, model and layout data together in real-time to compare with actual field conditions.

Integrated Laser Pointer
Capture reference points to align scan data to the project coordinate system. Perform all your basic field layout tasks, from layout of field points to capturing measurements for QA/QC.

Accurate Levelling Every Time
Automatic level detection ensures scans are level and provides the ability to scan upright or upside down.

Automatic Calibration
Eliminate the need for annual calibrations – Reducing maintenance costs and downtime.

- **Increase Productivity**
  Manage your X7 with the same easy-to-use software as your layout process while also viewing scan data immediately in the field.
- **Reduce Downtime**
  Ensure data accuracy, eliminate downtime from annual calibration and provide a total lower overall cost of ownership.
- **Streamline Collaboration**
  Use Section View exports to send only the data you need to project stakeholders.

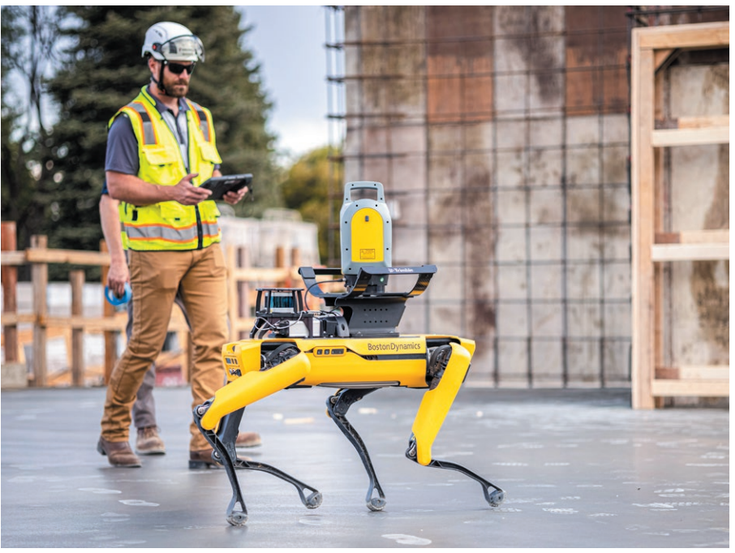
Autonomous Construction Robotics

Fully autonomous robots working collaboratively with humans to build efficiently, maintain quality control, and easily manage and monitor projects.

Trimble and Boston Dynamics Spot

Meet Scan's Best Friend

Unleash more productivity with a consistent and reliable picture of progress on your job site with Spot — the autonomous construction robotics solution.



Trimble and Boston Dynamics Spot Integrated Solution:

- ✓ **Trimble X7 3D Laser Scanner with FieldLink Robotics**
  Easily collect highly accurate point cloud information and 3D imagery to compare against CAD/BIM models for use in Design Validation, Progress Monitoring, Deviation & Surface Analysis, and Clash Detection.
- ✓ **Spot Defender**
  Safely Mount the X7 Laser Scanner to Spot the robot, while providing lateral protection for the Trimble X7 Scanner and the Spot robot in case of a fall.
- ✓ **Velodyne LiDAR Puck**
  The Velodyne LiDAR enhances the range and accuracy of Spot's autonomy system for use on large sites.
- ✓ **Spot CORE I/O**
  Spot CORE I/O provides dedicated processing for applications requiring on-robot computation.
- ✓ **Boston Dynamics Spot Enterprise Robot**
  With Spot, automate sensing and inspection, capture limitless data, and explore without boundaries.
- ✓ **Spot Dock**
  The Spot Dock is a self-charging station for Spot that transforms the robot into a truly autonomous remote inspection and 3D capture tool.

Features and Benefits

Discover the advantages of robotics in construction.

Autonomous Scanning Operation

Enable the collection of consistent and reliable data for improved production and quality control monitoring with Spot. Document change and perform design validation to ensure the as-built condition matches the as-designed intent.

Integrated Docking Station

A self-charging station for Spot transforms the robot into a truly autonomous remote inspection tool. With built-in dock detection, Spot will automatically recognize where to dock to charge Spot.

Safe Scanning, Continuously

Send Spot and the X7 laser scanner into unsafe conditions to perform dirty, dull, or dangerous tasks. Improve job site safety and address labour shortages.

Scan Data Upload

A built-in Gigabit Ethernet connection in the docking station enables the fast offload of registered scan data from the X7 laser scanner. Immediately access scan data at the end of a mission or post to a cloud sharing platform to perform design validation analysis.

Automated Scan Registration in the Field

In-field registration with Trimble FieldLink software ensures the right data is captured the first time. Perform real-time design validation workflows such as scan-to-model comparisons and surface analysis inspections to make immediate decisions in the field without leaving the job site.

Integrated Ruggedized Tablet

A ruggedized Trimble tablet allows you to control Spot and the X7 laser scanner through one device. Use the tablet to define a mission for Spot, set scanning parameters for the X7, perform in-field registration, design validation, and access Trimble Connect for project communication and collaboration tools.

Construction Layout Solutions

Trimble GNSS

Construction Layout Hardware

Simplify underground and long distance layout, QA/QC and field positioning tasks with superior technology that eliminates new station setup and flattens the learning curve.

Intuitive Interface
Trimble FieldLink software makes everyday tasks easier.

Trimble ProPoint Technology
Expand your reach and utilize all satellite signals.

Long Distance Capability
Combine Trimble FieldLink and the R780 for a complete office-to-field workflow.

Many Configurations
Base-only or rover-only or base/rover configurations fit your layout needs.

Designed for Contractors
Easy workflow steps guide even novice layout crew members through common projects and tasks.

Complete Solution
One easy-to-use, precise field system for layout.

- ✓ **Powerful Simplicity**
  Satellite tracking reduces the amount of setup time and pairing with Trimble's tablet controller streamlines workflows.
- ✓ **Expand Your Reach**
  Overcome inaccessible sites using the GNSS rover.
- ✓ **Increase Accuracy**
  Receive data corrections via wide band UHF radio or the internet.

Trimble RPT600

Construction Layout Hardware

Measure positions and distances fast, easily and accurately – Enabling your team to delivery accurate field work and eliminate rework.

Purpose-Built for Construction Layout

Twin Handles
For ceiling layout, tools need to go straight up. The RPT600 does the job.

No Tribrach
The RPT600 is engineered to eliminate instrument levelling.

Convenient and Compact
Customized for your job, the RPT600 is small but tough.

One-Button Setup
Automatic setup no matter where you put the tool – The system self-locates.

No Eyepiece Needed
You see what the instrument is doing right from the controller.

Intuitive Workflow
Trimble FieldLink software leads you through each step, one by one.

- ✓ **Work with Confidence**
  The RPT600 is simple enough for anyone to operate confidently. Its automated functions and guided workflows enable a wide range of field workers to deliver accuracy.
- ✓ **Increase Productivity**
  Automate setup, distance and angle measurement for maximum efficiency.
- ✓ **Stay Versatile**
  Meet the demands of paper plans or digital designs while working on a wide range of uses, including floors, walls and ceilings, formwork, mechanical, electrical and plumbing.

Trimble Ri Robotic Total Station

Get the job done Right the first time with the Trimble Ri

With the new Trimble Ri Robotic Total Station, you will be able to layout your project quickly and accurately.

Features and Benefits

Level Detection & Monitoring
Easy to set up for a contractor who wants to set up anywhere, be faster and more efficient.

Built-in Calibration Capability
Save money by not sending the instrument to be calibrated and peace of mind that your instrument is performing correctly.

Trimble Vision Technology
With Trimble Ri you can control the instrument from wherever you are on the jobsite, giving you the ability to do layout with one person.

Focusing Laser with Improved EDM
The bright red focusing laser gives you a more precise spot to mark out and the improved EDM gives you more range than many other RTS instruments.

FieldLink Integration
One software allows the user flexibility to control multiple instruments (Layout; Ri, RTS, GNSS. Scanning; X7 and Spot with X7)

✓ **The RiGHT Track**
With Trimble Vision Technology enabling single-person layout and instrument control you have the ability to do layout with one person - saving time and money.

✓ **The RiGHT Focus**
With accuracy utilizing auto-focusing red laser technology and extended EDM, you will get more range for a diversity of applications on the jobsite.

✓ **The RiGHT Level**
With self-calibration and level detection built-in, the Trimble Ri will keep you more productive in the field.

✓ **The RiGHT Design**
With FieldLink integration, you can use the same software for both scanning and layout. Upgrade to scale your business job to job, site to site.

Trimble RTS Series

Field Layout Hardware

Increase the efficiency and reliability of all your jobsite layout tasks and measurements with workflows specifically built for contractors.

Trimble RTS Model	RTS873	RTS773	RTS771	RTS573	Trimble RI
Passive Tracking	✓	✓	✓	✓	✓
Active Tracking	✓	✓	✓	✓	
Set the optical focus for quick manual aiming	✓	✓	✓	✓	✓
Long-range laser measurement for checking installs	✓	✓	✓		✓
Laser measurement auto-corrects uneven surfaces	✓	✓	✓		✓
Visual Verification	✓	✓	✓		✓
Layout with live images using video-assisted measurement	✓	✓	✓		✓
Autofocusing Green Laser	✓				
Autofocussing Red EDM and Laser Pointer					✓
Unlevelled Setup (Level Detection & Monitoring)					✓
Auto Calibration					✓

Eliminate the Guesswork

Deliver accurate layout quickly to ensure design intent is executed correctly the first time.

✓ **Better Performance**
Improve efficiency and precision for common layout tasks in building construction – In less time and with less budget.

✓ **Streamline Workflows**
Direct integration with Trimble FieldLink makes it easy to manage the complete construction layout and as-built collection process.

Trimble FieldLink MR

Get it Right the first time

FieldLink MR is built on the Trimble Connect cloud collaboration platform. Making it easy to access projects on any job site without the need for local storage devices.

Features and Benefits

Finish the job faster

Navigate from point to point faster by seeing exactly where your next point lies.

Greater understanding means fewer mistakes

Make more informed decisions and gain greater context in the field by visualizing the design data throughout the layout process.

Trimble™ FieldLink™

Helping construction professionals be more effective and efficient on site by extending the capabilities of FieldLink through mixed reality technology.

Real-time clash detection

Detect any clashes between different construction activities immediately, reducing rework and saving time.

Reduce training requirements

Get your workforce up to speed in less time with a more intuitive control of the layout experience.

Keep Your Site Connected

Built on the Trimble Connect cloud platform, access all of your projects from any site. At home, in the office, or on the job, your data is always ready.

- **Boost Productivity with Intuitive Visual Layout**

  Gain efficiency in your layout workflow by seeing exactly where your field points are, and naturally navigating directly to them.

- **True Site Context**

  Empower field workers to make more informed decisions by showing layout points in context to the design model.

- **Enhanced Communication**

  Share, communicate, and relay critical information back to the office in real-time.

- **Control at the Tips of Your Fingers**

  Access the same standard tools you've come to know and love in FieldLink, now enhanced through Mixed Reality.

Mixed Reality Solutions

Your Data. Your Work Site. Together at Last.

Visualize in 3D

Visualize and interact with 3D data onsite from any angle at true-to-life scale.

Put Vision into Context

Empower field workers to make more informed decisions by giving models real-world context.

Collaborate

Share, communicate, and collectively interact in real time with easy-to-understand visualizations.

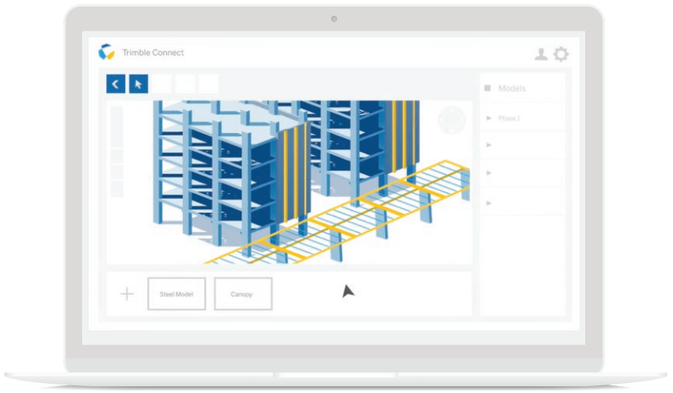
Report

Take photos, record measurements, and make notes in the field. Create and assign tasks to team members.

Trimble Connect

Trimble Connect for Building Construction

The open collaboration tool that connects the right people to the right data at the right time — enabling informed decision making and enhancing project efficiency.



Choose the plan that suits your business.

Trimble Connect Business Subscription

Complete data management and collaboration — Unleash your team's full collaborative potential with unlimited projects, unlimited project members, and unlimited data.

Trimble Connect AR Subscription Bundle

All of the data management and collaboration from the Trimble Connect Business Subscription PLUS augmented-reality visualization on your iOS or Android mobile device.

Trimble Connect AR + MR Subscription Bundle

All of the data management and collaboration from the Trimble Connect Business Subscription PLUS augmented-reality visualization on your iOS or Android mobile device, hands-free mixed reality visualization with the Trimble XR10 or HoloLens 2, and BIM tools.

Trimble Connect AR

Augmented Reality for Construction

Revolutionise your QA/QC workflows by viewing your digital models at 1:1 scale onsite and in context. Enable your project team to detect errors, observe omissions, and visually collaborate to resolve them.

Accessible. Accurate. Augmented Reality.

Drive value from your BIM model by getting it in the hands of more people onsite with Trimble Connect AR.

Simplify QA/QC Workflows

Trimble Connect AR simplifies your Quality Assurance and Quality Control (QAQC) workflows, by identifying virtual to real clashes or coordination issues, verifying as-built conditions comply with the design, and allowing for consistent communication and collaboration.

Capture and Share AR Photographs via Trimble Connect

Trimble Connect AR photographs can be captured and shared with the project team via Trimble Connect. These can easily flow into subsequent RFI/punch/checklist workflows.

View BIM Models in Augmented Reality

Trimble Connect AR allows you to place your 3D models in their actual location onsite. Complex situations become intuitive as you see the problem directly in the real-world context.

Integration with Trimble Connect and Trimble Field Tools

Utilize a turnkey Trimble solution with Trimble Connect, our software that provides simple web-based workflows to manage models and other data, and Trimble Robotic Total Stations, used to establish a highly accurate QR Marker network.

Accurately Position Models to Overlay the Real World

By establishing an accurately-positioned network of QR Markers, busy construction professionals can quickly and easily position their models on their job site.

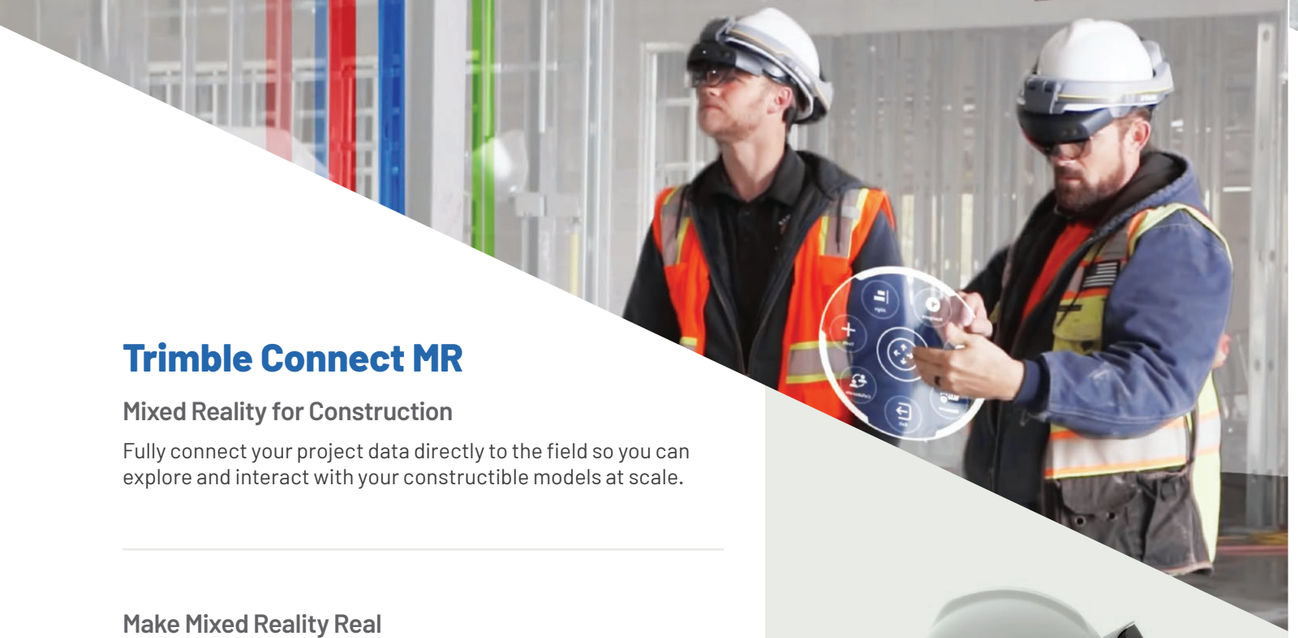
Industry-leading 3D Performance

Load large or complex models with minimal data preparation. Trimble Connect AR supports all common AEC file formats (not just a subset).

Resolve problems before they occur.

Close the project loop for stakeholders on-site and in the office through augmented reality with Trimble Connect for use on iPad, iPhone, and Google AR Services-supported Android devices.

- ✓ **Improve Efficiency**
  Visualize and interact with 3D data onsite and in the field to stay on schedule and avoid rework and extra costs.
- ✓ **Increase Productivity**
  Encourage real-time collaboration and transparency among stakeholders to avoid errors and delays.
- ✓ **Put Vision into Context**
  See the design intent on your jobsite. Empower field workers to make more informed decisions by giving models real-world context.



Trimble Connect MR

Mixed Reality for Construction

Fully connect your project data directly to the field so you can explore and interact with your constructible models at scale.

Make Mixed Reality Real

3D Design Review
Review structural, MEP or other data and geo-referenced assets by overlaying them onto the real world.

Project Management
Create to-do lists for RFI management so teams in the office and the field stay on track.

Project Coordination
Support a new way of working through the building lifecycle.

Fabrication Sequencing
Sequencing tools for step-by-step guidance through sequence model groups.

Collaboration
Collaborate with remote stakeholders to communicate build intent.

Model Support
Support for large models and .SKP, .IFC, .RVT, .DWG, .DXF and more.

Resolve problems before they occur.

Close the project loop for stakeholders on-site and in the office through mixed reality with Trimble Connect for HoloLens.

- **Improve Efficiency**
  Visualize and interact with 3D data onsite and in the field to stay on schedule and avoid rework and extra costs.
- **Increase Productivity**
  Encourage real-time collaboration and transparency among stakeholders to avoid errors and delays.
- **Put Vision into Context**
  See the design intent on your jobsite. Empower field workers to make more informed decisions by giving models real-world context.

Trimble XR10 with HoloLens 2

Collaboration Through Mixed Reality

Bring the open collaboration of Trimble Connect and mixed reality capabilities of the HoloLens 2 to the field team.

The Only Industry-Compatible HoloLens 2 Solution.

Certified for Worksite Use
The XR10 is the only HoloLens 2 solution compatible with an industry-standard hardhat and certified for use in safety controlled environments.

Wearability
Improved weight distribution and flip-up visor for increased wearability.

Field of View
Leverage the best possible mixed reality experience with an industry leading 43 degree field-of-view.

Easy to Use
Improved hand and eye tracking sensors for automatic calibration and instinctual interaction with menus and holograms.

Communication
Only crystal clear communication in high ambient noise environments with a 5-microphone array and innovative bone-conductive headset.

QA/QC
QC the job right there on the spot. Check the model to see any issues, and avoid clash.

Built with your work site in mind.

Close the project loop for stakeholders on-site and in the office by providing enhanced, actionable collaboration through mixed reality.

- **Put Vision Into Context**
  See the design intent on your jobsite. Empower field workers to make more informed decisions by giving models real-world context.
- **Increase Productivity**
  Encourage real-time collaboration and transparency among stakeholders to avoid errors and delays.
- **Avoid Disruption**
  Support nearly every design file type for contractors – From 2D to 5D models.

Field technology solutions unlock the potential of constructibility by fully leveraging information throughout all phases of a construction project.

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Trimble
Authorized Dealer

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