TRANSFORMING THE WAY THE WORLD WORKS

APPLICATION OVERVIEW

TRIMBLE X7 3D LASER SCANNER

The Trimble® X7 3D Laser Scanner is a compact, lightweight system with new innovations to simplify adoption, increase efficiency and provide confidence in the field. With the Trimble X7 and Trimble Perspective field software, you get a dependable instrument backed by an industry-leading two year warranty and comprehensive workflows to validate scan projects in the field.

Building Construction/Facility Management

The X7 is safe and effective to provide services to the buildings market, to create as-built models for scan to BIM and for renovations. Provide utility for building extensions, conversions and inspection of facades and elevations. Handle design optimization and accessibility planning. Use survey-grade self-leveling to verify verticality, floor flatness and to analyze deformation of beams and columns. In-field registration verifies the entire project has been captured to eliminate the risk of return visits, especially where access permits are difficult to obtain. Transfer data to TBC, RealWorks® or other CAD software for final analysis and design.

Industrial Survey

Create as-builts of industrial facilities for CAD modeling, plant revamp design, interference detection and verification of fabricated components. The X7’s High Sensitivity scan mode ensures highly precise data capture in complex environments where black and highly reflective metals are present. The compact, lightweight design and custom backpack make it easy to transport and climb ladders to access elevated platforms. In-field registration confirms the area has been captured entirely, eliminating costly field rework for critical projects when plants are shut down. Scans can also be geo-referenced to a plant coordinate system to match perfectly with CAD design models by surveying plant monuments and targets scanned by the X7. RealWorks Target Based Registration can use the survey control file to automatically register the scans for export to plant design CAD software.

Civil Infrastructure

Create as-built documentation for drawings or models for bridges, tunnels, dams, etc. Use scan information in clearance calculations, modeling, inspections, renovations, and expansion work. High-speed data capture reduces downtime for critical infrastructure projects. The compact, lightweight design makes it easy to transport and set up in a variety of environments. In-field registration allows users to verify that the scan data has been captured in its entirety, before returning to the office, reducing downtime and eliminating the need for multiple site visits.

Topographic/General Surveys

Capture features for land title surveys, including property boundaries, buildings, easements, site improvements, right-of-ways, encroaching elements, and complex structures. Assign labels to create scan groups and simplify the display of specific areas, and add annotations with pictures to document items of interest. Capture millions of data points in a fraction of the time it would take to capture significant features using traditional topographic survey methods. The X7’s compact, lightweight design make it easy to transport and set up, no matter the environment.
Road Intersection Surveys
Create as-builts of road corridors, intersections, roadway surfaces, lane striping, flow-lines, manholes, right of way monuments, and overhead power lines. High-speed data capture from a safe distance reduces the need for lane or road closures. In-field registration allows for immediate verification that the entire survey area has been collected, eliminating return visits and additional permit costs.

Forensics
Quickly capture information at crime scenes and vehicular accidents. Minimize road closures with high speed scanning and imaging, even on dark vehicles and roadways, and in extreme weather conditions. Add annotations with pictures to points of interest and take measurements in the field. The compact, lightweight design enables easy transport and setup when space is limited. In-field registration verifies complete data capture before leaving the scene. Export data to Trimble Forensics Reveal software for creation of 2D/3D diagrams and animations for investigation and reconstruction.

Utilities
Conduct general surveys for water, sewer, gas, power substations, powerlines, telecommunications, and cell towers. High-speed data capture reduces downtime for critical projects and in-field registration verifies the required data has been captured for inspections, clearance calculations and repairs. Import the data into TBC or Realworks for detailed analysis and end deliverable.

Marine Construction
Create as-builts for new construction, renovation, and optimization. The compact, lightweight design and custom backpack make it easy to transport and set up in congested areas. The auto-calibration function ensures accuracy in volatile environments. The system can automatically address temperature swings and vibration to ensure the best possible accuracy, and will notify the user if excessive movement is detected.

Tank Calibration & Inspection
Efficiently capture precise details of storage tanks and surrounding containment areas. The survey grade self-leveling will ensure you can accurately verify verticality and the compact and lightweight design will make entry and setup inside tanks easy. Quickly capture and verify the data in the field for import into Trimble RealWorks for analysis with the Advanced Tank module. Calculate tank volume filling tables and secondary containment volumes. Perform deformation analysis for tank repairs and create reports meeting API 653 standards.

Mining
Scan underground mines and quarries for deformation monitoring and stockpile volume calculations. Use the High Sensitivity scan mode to precisely capture both dark and bright materials. The X7’s compact, lightweight design and custom backpack make transport and setup easy, even in underground mines. High-speed scanning will reduce downtime and the IP55 rating will provide reliable operation in tough, dusty environments. Import data directly into TBC or RealWorks for comprehensive analysis.

Cultural Heritage
Historic preservation projects require great detail to inspect or monitor surface deterioration. The Trimble X7 has the range, accuracy, resolution and imagery required to deliver. Quickly capture cultural heritage landmarks and add annotations with images to further document the site. The X7 is easy to transport to remote locations and the in-field registration ensures you can validate the data before you leave. Help plan restoration efforts or simply capture history.