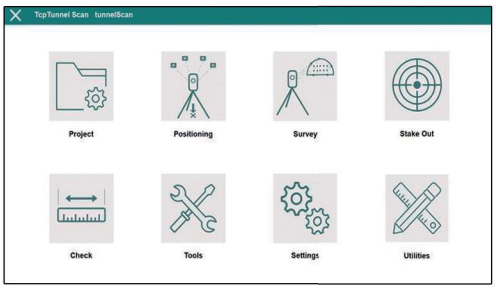
TcpTUNNEL Scan for Topcon

Real-time control tunneling construction
software for scanning robotic total station

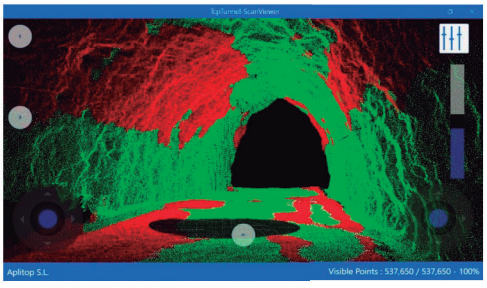
Project Definition

Each project is defined by the horizontal and vertical alignments, the tunnel design and point clouds. Data can be extracted from CAD drawings or imported from LandXML, IFC, and other formats.



Positioning and Orientation

The instrument must be positioned and oriented by coordinates, angle or resection. You can also get the current positioning performed by Topcon MAGNET® Field data collection software.

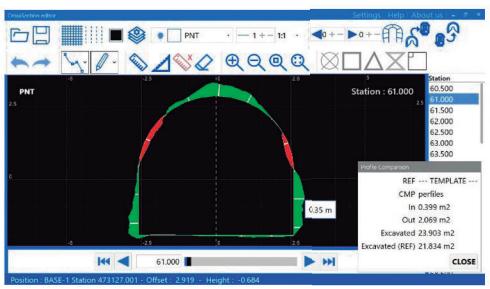


Data Collection

TcpTUNNEL Scan controls the scanning of the tunnel vault or face, with optional filters by station range and distance. A powerful 3D viewer allows you to review the point cloud and check measures.

Profiles

High-definition tunnel cross-sections are quickly calculated from the point cloud, and they can be consulted, edited and compared to the tunnel design, showing with different colors the underbreak and overbreak areas. Selecting any point of the profile on the screen, the laser pointer marks the position in the tunnel. On the other hand, measuring any point in the tunnel, project and as-built profiles at the corresponding station are represented.



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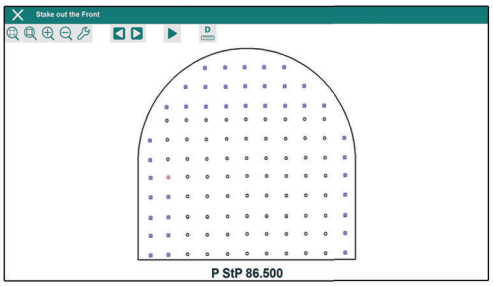
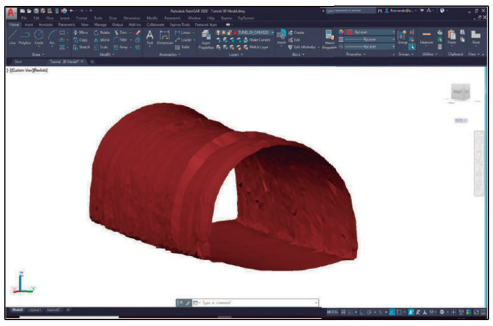
Stake Out

TcpTUNNEL Scan facilitates the stake out of the tunnel front, for example the drill hole points for the next blasting excavation sequence, points on the template, rock bolts, road surface and points of the project file. The application calculates the exact position of each point from the scanned point cloud, avoiding the search for points from design by iterations and greatly increasing productivity.

The application can perform the verification of the minimum thickness of the lining shotcrete, as well as the subsequent calculation of the applied shotcrete volume.



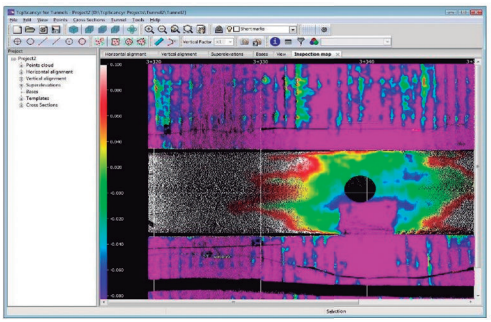


Data Analysis

TcpTUNNEL Scan works together with TcpScancyr or TcpTunnel CAD.

TcpTunnel CAD is an application installed as a plugin on AutoCAD or ZWCAD. You can define tunnel templates from polylines in the drawing, draw cross-sections, generate area and volume reports and 3D model.

TcpScancyr is a standalone application that can process tunnel point clouds and produce profile drawings, detailed reports, inspection maps, orthoimages, video simulation of the tunnel, export to 3D and IFC and many more.



Requirements [1]

Total station	Topcon GTL SERIES (GTL-1200, GTL-1000)
Accessories	WiFi SD card with 64 Gb minimum capacity
Data Collector [2]	Windows 10 operating system (64-bit) x86 processor Minimum RAM 4 Gb Minimum storage 32 Gb GPU OpenGL 3.0 or higher Minimum screen resolution XGA (1280x800) with 125% text scale Bluetooth and WiFi connectivity

[1] This information is purely indicative. It is recommended to check the requirements of TcpTUNNEL Scan on our website www.aplitop.com
[2] Topcon FC-6000 recommended

Reseller

www.aplitop.com

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