tcpMDT Photovoltaic powered by Soltec

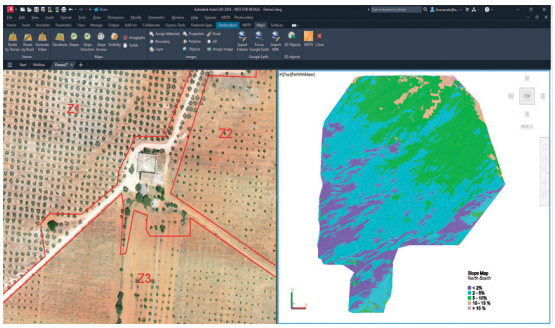
Optimization of Surveying Projects in Photovoltaic Plants

CAD application for minimizing earthworks, quantity takeoff, and staking out solar trackers and fixed-tilt tables.

Terrain Analysis

The project is divided into zones that can be managed together or independently by setting the maximum allowable slopes, distances and elevation differences between trackers or fixed solar structures, positive and negative tolerances, and other project parameters.

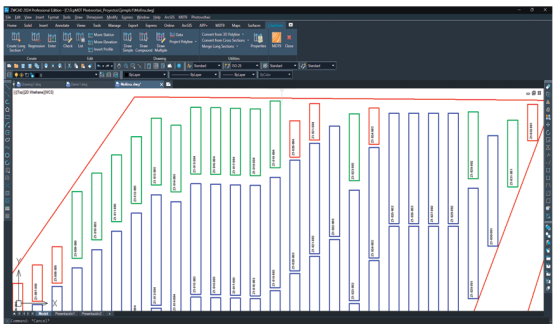
The software allows users to view the existing terrain in 3D and analyze North-South or East-West slopes using customizable color palettes and labeled values, as well as elevation differences in plan view.



Site Design

Solar structures can be classified into several types, such as single-row trackers, dual-row trackers, articulated trackers, flexible trackers, and fixed-tilt solar tables, with properties such as brand and model, physical dimensions, location and support types, number of panels, power, and more.

The layout on the terrain can be created with assisted tools or by converting CAD drawing objects. Structures and supports are numbered automatically, and they can also be linked to external references.

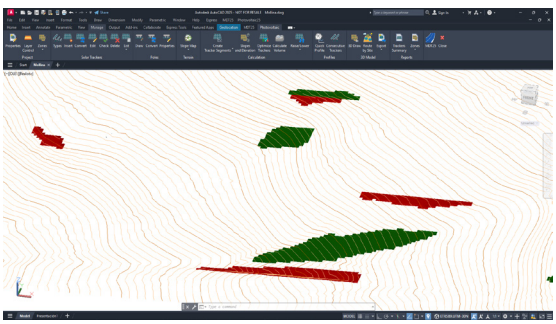


Calculation and Optimization

For each tracker or fixed-tilt solar table, the software analyzes longitudinal and cross slopes in order to define the best grading solution according to the project criteria, parameters, and tolerances.

The optimization process automatically adjusts elevation differences that exceed the defined thresholds, and it includes interactive tools to solve slope issues, jumps between structures, and other errors.

Once the issues have been reviewed, a final ground model is generated to optimize earthworks as much as possible.



aplitop Surveying the Future

tcpMDT Photovoltaic

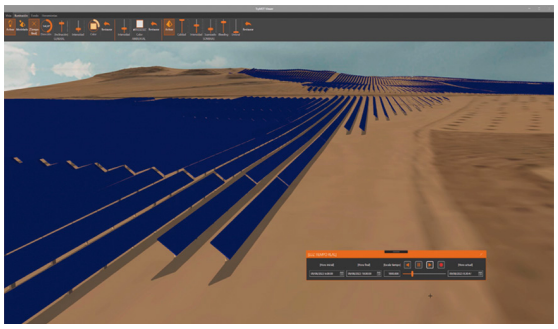
powered by soltec

Results

Depending on the project, tcpMDT Photovoltaic includes the generation of all types of reports for zones, solar structures, and supports, both summary and detailed, which can be exported to Excel and other formats, as well as sent to data collectors for field staking with GNSS or total station.

The graphic information is organized by layers, making it easy to generate drawings, tables, and listings for the project documentation, along with the 3D model of the installation, also providing a realistic representation of the final terrain.

For tracker installations, it allows direct export to PVsyst® for simulation and analysis of photovoltaic systems. It can also export to IFC with all associated properties for integration into OpenBIM workflows.



Requirements (1)

Aplicación Base	TcpMDT Professional 25 (july 2025 or later)
CAD	AutoCAD® versions 2019 to 2026 (64 bits) BricsCAD® BIM/Pro/Ultimate versions 19 to 25 (64 bits) GstarCAD® Professional versions 2023 to 2025 (64 bits) progeCAD® Professional 2026 (64 bits) ZWCAD® Professional/Enterprise versions 2019 to 2026 (64 bits)
Operating System	Windows 10 and 11 in x64 architecture
Peripherals	Mouse with 3 buttons + wheel or pointer
Graphics Card	1280x720 pixels, compatible with OpenGL 3.3 or better Recomnended chipset Nvidia or ATI
Hard Disk	10 Gb of free disk space
Memory	8 Gb

(1)This information is purely indicative. We recommend consulting the respective manufacturers' specifications, as well as the tcpMDT Photovoltaic requirements section on our website www.aplitop.com.

www.aplitop.com

Surveying and Civil Engineering Solutions
Sumatra, 9 29190 Málaga (Spain)
+34 952 43 97 71 info@aplitop.com

aplitop Surveying the Future