tcp**MDT** Photovoltaic

powered by **Soltec**

**Optimization of Surveying Projects in Photovoltaic Plants**

CAD application for minimization of earthworks, quantity take-off and setting out of solar trackers

Terrain Analysis

The project is divided into zones that can be managed jointly or independently, setting the maximum permissible slopes, pitch and elevation difference between solar trackers, positive and negative clearance and more.

The software allows you to visualize the existing ground in 3D and analyze its North-South or East-West slopes with representation through customizable color palettes and labeling of values.
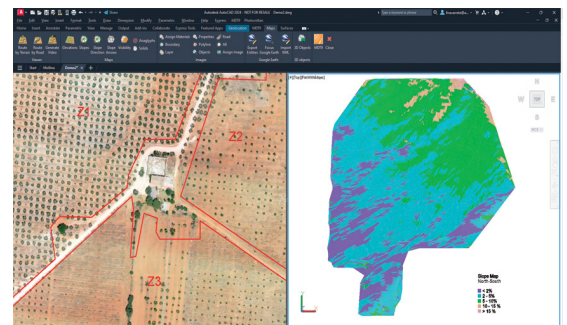
Site Design

Various types of solar trackers can be defined, such as simple tracker, dual-row and terrain following tracker, specifying properties as brand and model, physical dimensions, location and types of support poles, number of solar panels, maximum power, etc.

Layout on the ground can be carried out in an assisted manner or by converting objects from a CAD drawing. Solar trackers and poles are automatically numbered and can be linked to external references.
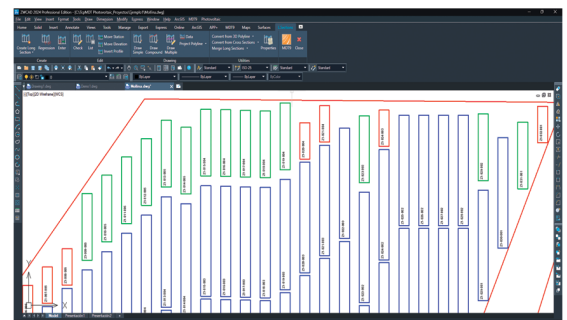
Calculation and Optimization

For each solar tracker, longitudinal and transverse slopes are computed, in order to adjust the best grade, adapting it to the parameters and tolerances of the project criteria. Optimization automatically adjusts elevation differences greater than the thresholds, and interactive tools are included to resolve errors with slopes, jumps between solar trackers, and others.

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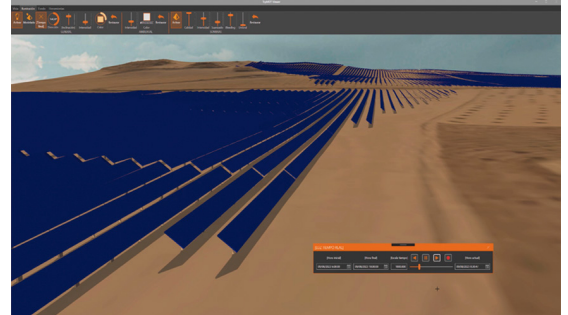

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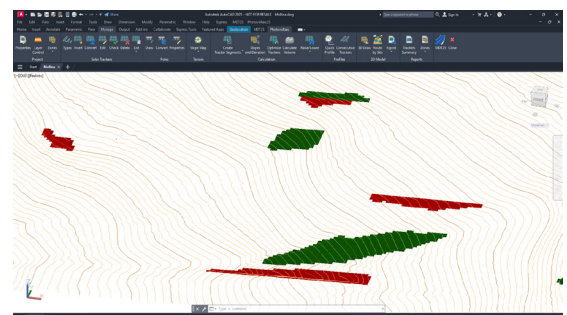
Results

tcpMDT Photovoltaic includes the generation of reports about zones, solar trackers and poles, both summarized and detailed, which can be exported to Excel and other formats, as well as sent to data collectors for field stakeout with GNSS or total station.

The graphic information is organized by layers with which plans, tables and listings are easily generated for the project report. A 3D model of the entire facility is also obtained, achieving a realistic representation of the final terrain.

In addition, this model can be exported 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 2025 (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.

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