

KEY FEATURES

- Comprehensive design functionality
- Build and view 3-D models
- Industry leading material management capabilities
- Viewable in stunning graphic renderings
- Quickly generate accurate construction packages and easily update them
- Scalable and flexible design capabilities
- Unrivaled global optimization
- Customizable reports and interfaces
- Robust conductor sag and tension analysis
- Finite element structural analysis

KEY BENEFITS

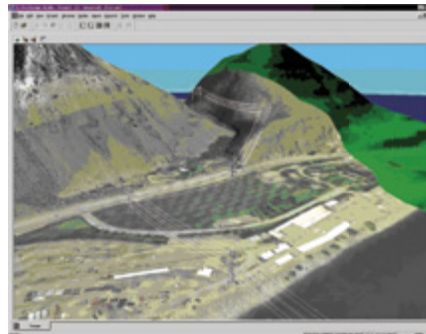
- Cover the feasibility siting design spectrum
- Improve efficiency from project concept through construction and into maintenance
- Highest quality public presentations
- Raise productivity of engineers at all experience levels
- Easily manage change throughout the concept, design, and construction phases
- Intuitive, interactive design environment
- Standards and material management
- State-of-the-art open architecture platform for enterprise integration

TRIMBLE TL-PRO SOFTWARE

Transmission line design is a complex process. The most difficult challenge is not just engineering production. It is in finding a way to efficiently manage change. Trimble® TL-Pro™ enables multiple design scenarios while easily incorporating survey data, managing design standards, and manipulating design criteria.

HOW IT WORKS

Terrain Modeling and 3-D Visualization

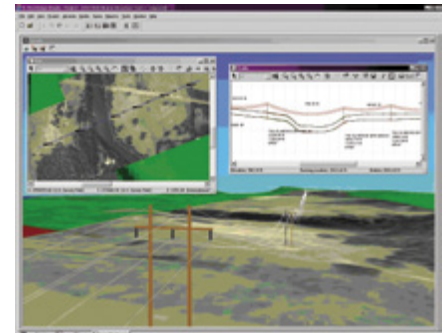


Trimble TL-Pro's innovative 3-D terrain modeling capabilities empower designers to take full advantage of survey data in a variety of both regular and irregular network formats. This powerful functionality enables the designer to create a 3-D model of the line on virtual terrain, while calculations are performed in three dimensions, resulting in unprecedented accuracy and flexibility. The resulting visual models are extremely valuable in a variety of situations, including project reviews, marketing, siting, and permitting.

Standards Management

Trimble TL-Pro's standards and material management capabilities are unmatched in the industry. The design suite comprises a robust set of tools for building structure geometry for engineering analysis, visualization, materials, labor, and accounting. Dynamic 3-D rendering offers easy visual verification of the structure model. This capability enables automated interfaces to enterprise material management systems and work management systems.

Interactive Design Environment



Trimble TL-Pro features familiar navigation tools and user interfaces for the ultimate in ease of use. Designers will see productivity improvements, regardless of their experience level, with "tree" style viewing of design criteria, options, and parameters. Trimble TL-Pro is a professional software product designed and developed for optimum usability.

- Tree view—Enables a designer to manage multiple designs, sections, alignments, and discreet design criteria within one workspace.
- Plan view—Provides a graphical map view of the terrain, design constraints, alignment, and structure layout in a workspace. Geo-referenced raster images and vector drawings can be imported and viewed.
- Profile view—Allows the user to view and save one or more line profiles within a design alternative. It provides a geographical elevation view normal to the line route of the terrain, design constraints, alignment, and structure layout in a workspace.
- Three-Dimensional Terrain Viewer—Allows the user to visualize the terrain, alignment, and spotted structures in three dimensions. The user may "fly through" the terrain and record digital simulations in AVI format.

Trimble TL-Pro software

Structural Analysis

By using the geometry and property information defined for each structure, Trimble TL-Pro builds a model that can be analyzed by the state-of-the-art non-linear finite element structural analysis module. The analysis module is completely applicable to all types of single and multi-pole structures, both guyed and un-guyed, and the outputs are easy to understand. And the best thing is that you don't need to be a structural engineer to build and analyze the structure models.

Sag and Tension Calculation

In order to expedite the design process, Trimble TL-Pro automatically calculates conductor catenary constants without the need to import data from other applications, or "stop and stall" subroutines that may not be version compliant. Yet, if the designer prefers to use his or her own data, catenary values can be imported from both industry standard and customer applications. Of particular value is the feature that allows the user to build conductors. Trimble TL-Pro utilizes the same algorithms and techniques used by the conductor industry to create and model conductors, thereby giving the user the ability to build conductors "on the fly", without having to go to websites to download a file, or to wait for a file to be provided by others.

Global Optimization

Trimble's optimization routines (based on the original TLCADD algorithms) set the industry standard, allowing designers to quickly find the best solution within specified design constraints. Trimble TL-Pro's global optimization capability goes even further: the designer can easily identify and track the actual cost of each design decision, determine which factors are limiting the design, and manipulate the variables over which the designer has control. This optimization continues to lead the industry and is second to none.

Multiple Design Scenarios

Trimble TL-Pro's ground breaking scenario management and navigation abilities eliminate the tedious manual work associated with managing many projects that require design comparisons. The designer can quickly and easily compare different designs and evaluate impact on the spot. This function allows for evaluation of alternatives, as well as a design record, preliminary design, and as-built project "states".

Analysis Reports and Drawing Preparation

Leading-edge design capability means nothing unless the designer can easily document the results. Trimble TL-Pro delivers; with automatic development of detailed plan/profile sheets and comprehensive design reports. All report information can be used in custom report formats and easy export in common spreadsheet formats.

Advanced Estimates and Material Lists

Now the designer has unparalleled ability to develop project estimates and material lists. These outputs can be printed as standard or customized reports, or exported to material management systems using Trimble's standard XML output files.

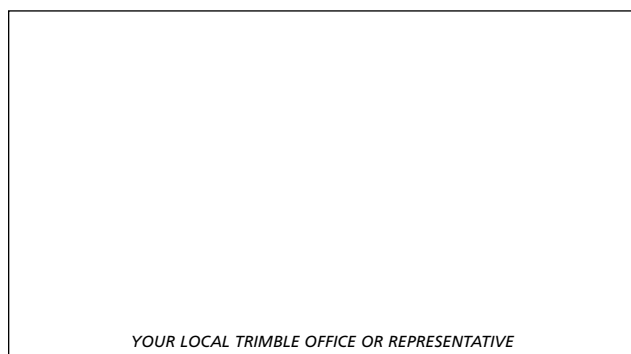
PRODUCT SPECIFICATIONS

Trimble TL-Pro Platform

The cornerstone of the Trimble TL-Pro family of software products is its breakthrough open architecture, which gives designers the flexibility they need today, while positioning them to meet future requirements. The system is backward compatible to the industry leading TLCADD platform: TLCADD files can be opened and immediately used in Trimble TL-Pro.

- Multi-tiered 32-bit architecture
- Standard XML inputs and outputs
- Windows® NT/2000/XP operating environment
- Backward compatible with TLCADD 5.3 + and Trimble TL-Pro Designer

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