



Electra

by **CGS plus**

Overhead Power Line
Design Software

AUTODESK
AUTOCAD CIVIL 3D
Compatible



AUTODESK
AUTOCAD
Compatible



AUTODESK
AUTOCAD MAP 3D
Compatible



DEVELOPED FOR



BRISCAD

Version 2016



Electra

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Overhead power line design

ELECTRA is powerful overhead power line CAD design software which combines design and documentation production workflows for electrical distribution design.

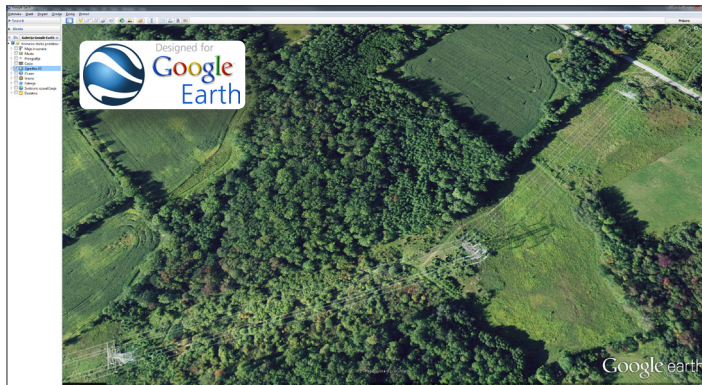
It provides sophisticated design and analyzing tools to optimize transmission network designs in plan and profile. Detailed and comprehensive documentation production is supported within Electra software solution.

3D terrain model design

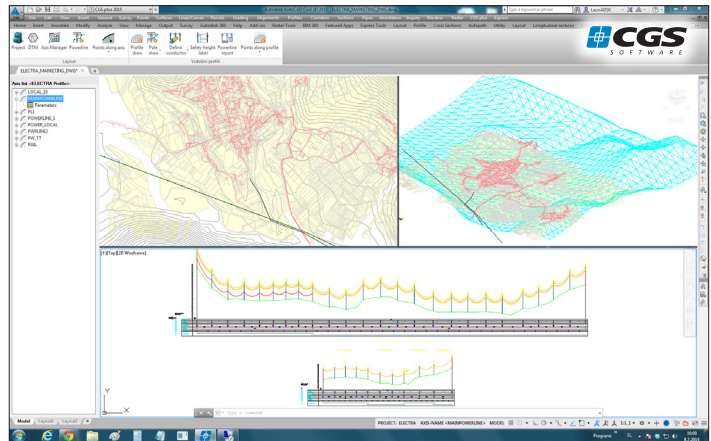
Electra support various digital terrain data from surveying instruments, Lidar technologies, photogrammetry and other data formats. Electra includes its own digital terrain creation tool to model 3D surfaces for generation of multiple plan and profile transmission lines design.

Easy to use workflows and dynamic data changes support

With its easy to use workflows and design data analysis tools Electra provides user a comprehensive tool to manage complex design requirements in most productive way. Automatic data update of plan and profile ena-



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|--------------------------------|--|
| Used for | Overhead power line design |
| Supported CAD platforms | AutoCAD, AutoCAD Civil 3D, AutoCAD Map 3D 2016 to 2011; BricsCAD V15 to V13; 32 & 64-bit |
| Supported languages | English, Portuguese, Slovenian |
| Supported standards | EN 50423-3-21 EN 50423-1 |
| Product Internet page | www.cgsplus.com |

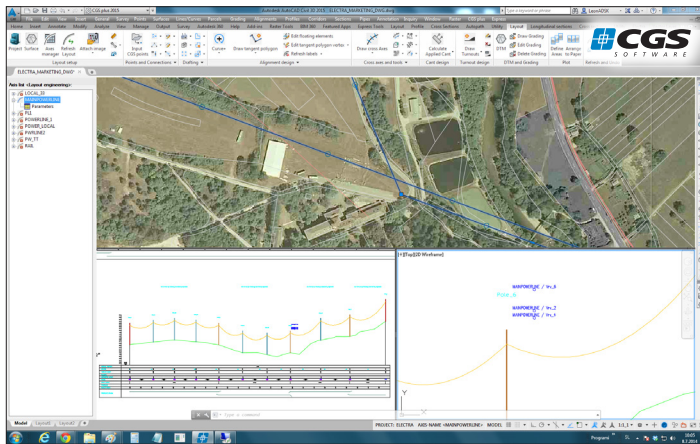


ble users to easily design or edit transmission line geometry and components.

Industry standards and calculations

Electra includes build in cables library and load parameters which can be user defined and customized. Catenary calcula-

tions and sag-tension analysis tools enable users to design, edit and optimize transmission lines accordingly. Electra complies with EN 50423-3-21 and EN 50423-1 standards.



Sag-tension and load parameters

Prebuild load parameters and sag-tension values enable users to produce quick designs while editing and customizing options provide reliable customer related or country specific transmission line designs.

Design data analysis

Electra provides safety distances analysis between transmission lines and terrain, enables display of various sag calculations under different temperature conditions and tensile forces. It also supports visual safety distances checks between conductors.

Infrastructure interoperability

Existing infrastructure analysis tools provide designers comprehensive information related to existing infrastructure that new design is related to. Other transmission lines intersection

heights, road, rail and other objects crossing information, projected objects from layout to profile information and more. Objects along transmission line data info and other information is available within Electra tools.

Design data reports and documentation

Span, sag and tension reports are included plus detailed plan and profile layout documentation with additional drafting, labeling and other possibilities are supported within the Electra solution.

The screenshot shows a 'Technical Report' window. It contains a table with columns for 'Temperature', 'Length', 'Tension', 'Resultant', 'Tension', 'Tension', 'Tension', and 'Tension'. The table lists data for different temperatures (e.g., -10, 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100) and lengths (e.g., 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000). The data is presented in a structured format with multiple rows for each temperature and length combination.

Electra Advantages

Intuitive workflow

The Electra workflow consistently follows standard civil engineering design process, which intuitively leads the designer from the start to the successful finish of the project.

Team-work Support

Projects can be very efficiently divided among multiple team members who can then work simultaneously.

Native CAD application

Electra is fully integrated into the CAD environment. All the data are stored in one or more DWG files. The drawings can be modified with CAD commands at any design stage giving you complete flexibility in the design process.

Easy to learn and use

Well-structured ribbons, menus and simple dialogues enable fast learning for the first time user while the toolbox and command line options are provided for the convenience of experienced users.

CAD platform choice

Electra can be installed on top of AutoCAD, AutoCAD Civil 3D, AutoCAD Map 3D or BricsCAD, where the functionality always remains the same. In the future additional CAD platforms will be supported. This CAD platform choice gives Electra customers the possibility to optimize their "Cost of ownership" without sacrificing function abilities.

Handling of large data sets

Electra is capable of handling large projects with very long power lines within seconds.

Support for local design standards

Electra is available in several languages and supports country specific standards and drawing layouts. Electra customers are entitled to use any country-specific version of the software in case of designing projects for foreign countries.

GIS data support

Integration with Autodesk MAP 3D functionality is supported within Electra in order to manage existing and new infrastructure spatial data. Export of new transmission lines data to shp files, ASCII files or other database formats is also supported.

Drafting

Electra provides all the drafting possibilities to deliver design data in various forms and plotting delivery requirements.

Flexibility

The program allows interactive modifications and changes of several parameters for calculating and editing of overhead power lines.

CAD platform support

Electra operates on the AutoCAD or/and AutoCAD Civil 3D platforms from 2016 to 2011 version. It also operates on BricsCAD V15, V14 and V13 version.

CGS Infrastructure DesignSuite

Ask for CGS Infrastructure Design Suite, which integrates CGS plus products Plateia (Roadway design), Ferrovia (Railway design), Aquaterra (River engineering) and Electra (Power line design) into one single design environment!



Get more information online!



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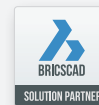
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About CGS plus

Founded in 1990, CGS plus is a leading developer of software solutions and tools in the fields of transportation, infrastructure, and AEC. Besides providing a family of high-end civil engineering applications, CGS plus also offers Civil 3D and Revit software tools for civil engineers and architects, as well as customized CAD and BIM solutions for other companies and software vendors. With offices in Europe and the United States, there are more than 8,000 customers in 33 countries currently using CGS plus software solutions worldwide.



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