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 enable 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 calculations 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.
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.

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.

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 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.

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.

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.
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 shape files, ASCII files or other database formats is also supported.

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 Auto-CAD or/and AutoCAD Civil 3D platforms from 2016 to 2011 version. It also operates on Brics-CAD 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!

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.