

# elecworks™

electrical CAD for the world



## Software for design of automation projects.

**Elecworks™ is a powerful new generation software tool, that enables electrical designers and automation experts to create automation and electrical installation projects.** Through Windows standard interfaces, engineers can produce better installation designs and supporting documentation faster.

**Elecworks™** allows project data to be entered right from the preliminary research stages. A huge part of the project planning can be achieved even before completing fully-fledged schematic diagrams, thanks to the processing tools like Cable Synoptic or Components Management.

**Elecworks™** has been originally developed to do electrical CAD, it is dedicated to the design engineers professional use. So, to create schematic diagrams you use electrical lines and the symbols, when inserted or deleted, ensure the continuity of the lines. The I/O table is dynamically linked to the project equipments.

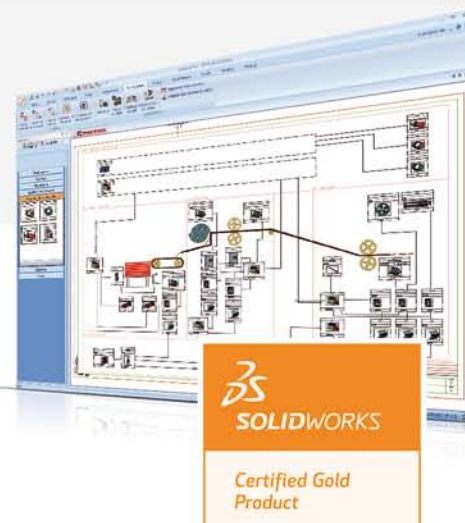
There is no learning curve, using **elecworks™** is straightforward. You just drag and drop or use the smart tools designed to automate the schematic generation process. Smart Help and contextual menus will help the user whatever the command. **Elecworks™** allows users to create not only small projects but also lets an entire team to collaborate on large scale projects.

**New SolidWorks  
Enterprise PDM link**

## Schematics and SolidWorks 3D Design

**Elecworks™** marks a revolution in electrical engineering, designed for mechanical and electrical team collaboration, **elecworks™** allows users to work on all areas of a digital installation feasibility in real time, whether it be the cable synoptic, schematics, equipment management or Input/Output tables.

**Schematics and 3D Design:** Trace Software, part of the SolidWorks Solution Partner program, develops **elecworks™** to provide SolidWorks designers with the tools to use and share electrical and automation information on the 3D mock-up.



## The technology

**Elecworks™** is the result of an unprecedented technological development. The graphical part is stored in a native DWG compatible format that enables data exchange between different software in the market. The database is SQL Server, the configuration data are in XML format, the application is 100% Unicode.

**trace**software

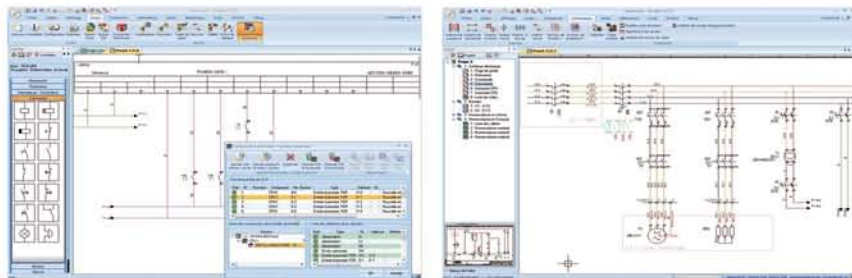




## The user interface

With the rich experience of 20 years in the field of electrical and mechanical CAD/CAE, Trace Software has created an exceptionally innovative product, bringing all new, faster and more reliable working methods.

**Elecworks™** is completely inspired by Windows standards and has multi-level UNDO/REDO available for all functionalities. The product has contextual menus and a ribbon interface that enables the user to access commands in a naturally easy way.



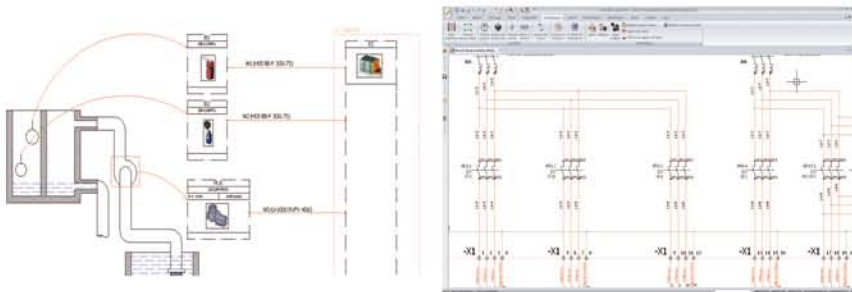
## 2D schematic

**Elecworks™ Core**, functions as a stand-alone solution. **Elecworks™**, is an easy to use electrical CAD software, contains all the features needed to design an installation. Users have at their disposal tools to draw schematic diagrams, wiring diagrams, manage terminals and PLCs, edit BOMs, search for symbols in the library or for manufacturer parts, copy or translate project data, share drawings in a native DWG format, export data to Excel or incorporate any type of document into the project.

**Elecworks™** allows multiple users to work simultaneously on a project with any changes being reflected in real-time.

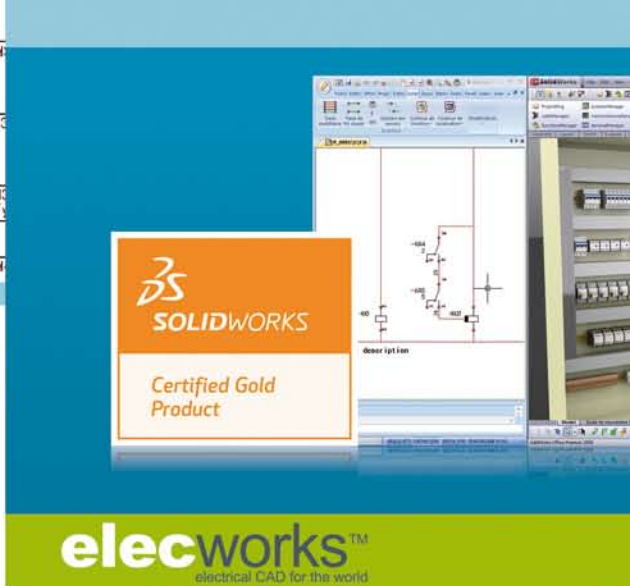
Many tasks are automated to maximize productivity: single-line and multi-wire drawing integration, automatic generation of terminal sheets, numbering and cross references updated in real time, 2D panel layout, intelligent copy / paste of drawings or projects, and wizards for creating customized components, etc.

**Elecworks™ Core** includes the commands and parameters that allow you to utilize existing legacy data such as catalogs, and libraries as well as complete projects in DWG / DXF format.



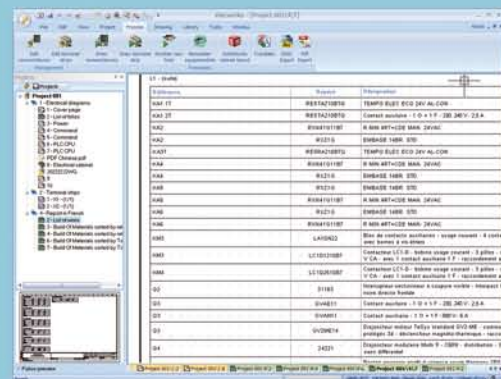
The interfaces have been carefully designed to make **elecworks™** easy and enjoyable to use, with intuitive tools, direct controls (multi-selection menus, shortcuts, macros) and smooth project navigation.

With an interface in multiple languages, **elecworks™** is also able to translate project data into any language, and has internationally recognized symbols standards to meet global project requirements. Its flexibility and performances make it an ideal design tool for any type of project.



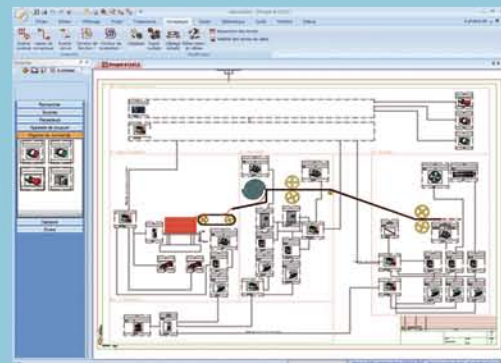
## A database to stock a project data

**Elecworks™** stocks all installation information, from symbols and lines, up to the complete description of components and cables in a database representing the digital template of an installation. When you work with **elecworks™**, you are interacting with this database in real-time.



## Single Line Diagram & multi-line schemes integration

The Single Line Diagram (SLD) contains tools that allow for the rapid realization of installations, equipment and the connecting cables. This data can be employed for costing prior to scheme development. All information applied in the SLD is automatically linked to the detailed scheme's.





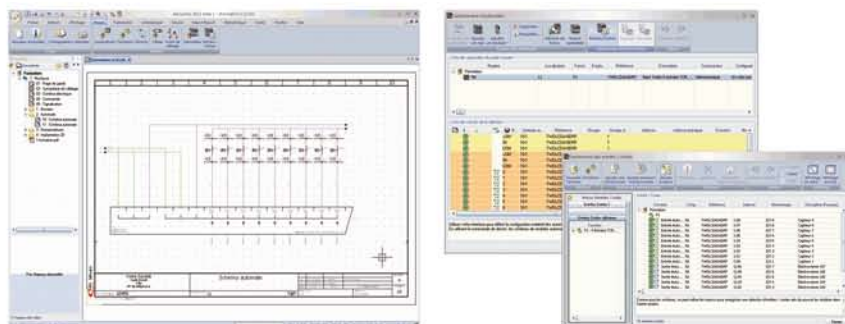


### PLCs management and dynamic insertion

The PLC management feature automates the creation of PLCs and the optimization of equipment according to your needs. PLC loop drawings can be generated automatically. Depending on the number of I/Os required, the user can select the required PLC manufacturer part and **elecworks™** will associate the card addresses to predefined I/Os.

The generation of the controller card with I/Os is independent of an associated manufacturer part. By using macros, the user can instantly generate those parts of the schemes directly related to the PLC addresses.

In addition to the automatic generation of PLC drawings, you can use dynamic card insertion. This provides great PLC design flexibility. Users can choose to represent any card either fully or partially by selecting the channels required. Users can dynamically selected addresses, represent the cards horizontally or vertically, add personalized descriptions and make changes that will be reflected on the PLC card drawings, etc.



### Connection labels

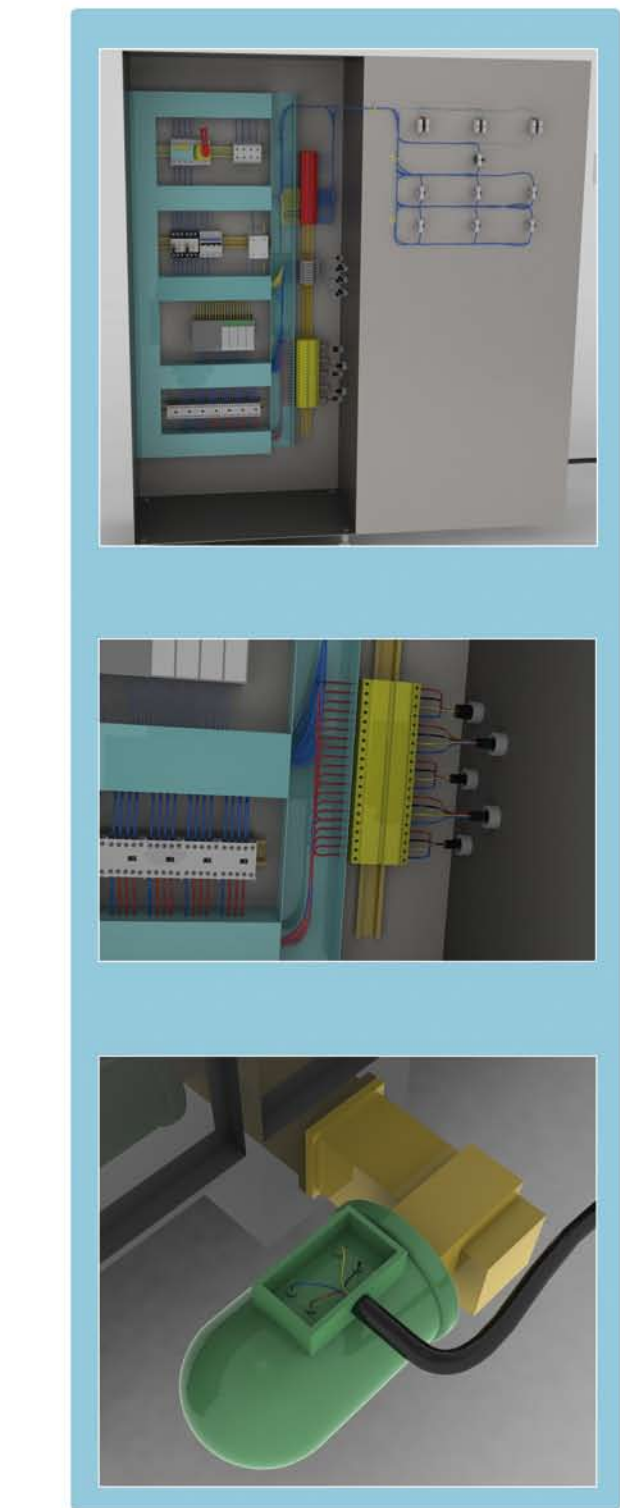
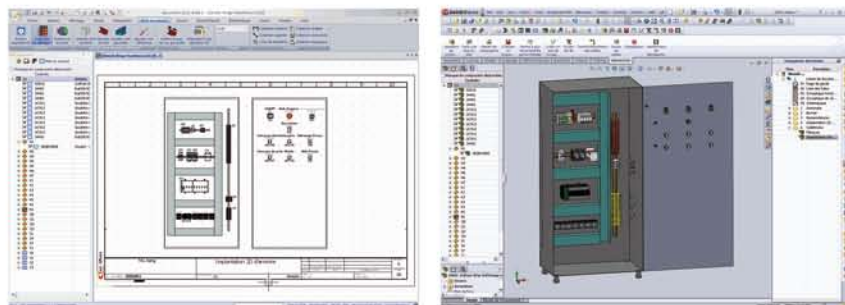
Connection labels bring together all connection information for a device: different terminals, connected wires and drawing number(s) where such information is applicable. This is very useful when cabling devices as it provides clear, concise, component wiring information; these tags can be inserted into various aspects of the project: schemes, in line diagrams, or directly into 2D panel layouts.

Any change in schematics or line diagrams will be automatically reflected on the relevant connection label. Connection labels can also be used for the design of electrical harnesses and connector management.

### Panel design in 2D or 3D layout

**Elecworks™** can check the size of your installation in 2D and / or 3D. This allows users to precisely position rails, ducts, devices, etc.

The 3D implementation also takes into account the device depth. This feature is available through the **elecworks™** for SolidWorks module that includes automatic routing of cables and wires, length calculations, fill factors etc.





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## Electrical design in 3D

Thanks to the use of cutting edge technology, **elecworks™** is pushing the boundaries of electrical design by visualizing projects in 3D, using the same techniques commonly available only for mechanical projects. 3D offers multiple advantages:

- View as realistic components.
- Visualization of the space occupied for collision management.
- Precise wire length calculations, through 3D routing.

3D reduces design and production times, automates and simplifies wiring, brings new quality to project documentation and helps clients visualize the end product.

## Intelligent electrical components

**Elecworks™** uses smart 3D components. They come with automatically applied constraints to enable simple positioning on DIN rails and with connection points used for automatic wiring.

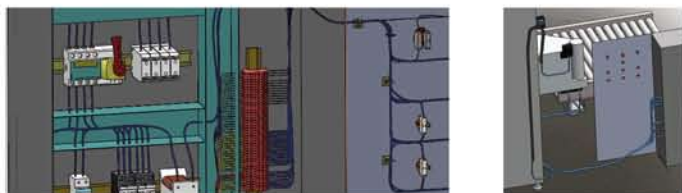
**Elecworks™** revolutionizes panel design by providing automated panel realization in 3D.

## Cable and wire routing

3D cabinets or machine wiring is carried out automatically using the shortest possible route. Thanks to smart components this users are provided with true point to point wiring and connection information for every component.

Automatic routing saves considerable design time and reduce costs by optimizing wire and cable lengths.

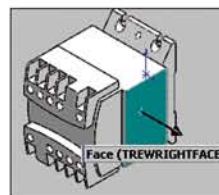
The routing takes into account not only the shortest route but also the duct fill factor, and allows users to set cable routing constraints by segregating cables to reduce noise. 3D also has the benefit of providing realistic representations of the end product.



True cable and wire lengths are automatically calculated, so that the design department can make precise installation estimations, pre-order materials, and begin preparation of cables in advance of production.

## A 3D user community

Through our partnership with TraceParts, a world leader in 3D modeling of components for engineering, users can download any smart **elecworks™** components they need, either directly or through their software, and have free access to a database of hundreds of catalogs and millions of components.



**Elecworks™** components are reported in the TraceParts database (**elecworks™** detailed level). Any model in a SolidWorks format can be used, and thanks to the **elecworks** wizard, required properties can easily be added to the model.



Selected component models can be added to the **elecworks™** library for use in the future. With just the manufacturer name and part number, the user can then insert the component into an **elecworks™** project.

## Link PDM and ERP

The **elecworks™** PDM link enables integration of electrical project data within PDM systems. Designed to work with generic links PDM / PLM, customization is also available for advanced integration into EPDM systems.

The advanced integration of SolidWorks Enterprise PDM is available and allows users to automatically process documents. The **elecworks™** PDM link enables EPDM to control data access, manage revision control and maintain a complete document set via automated options.

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