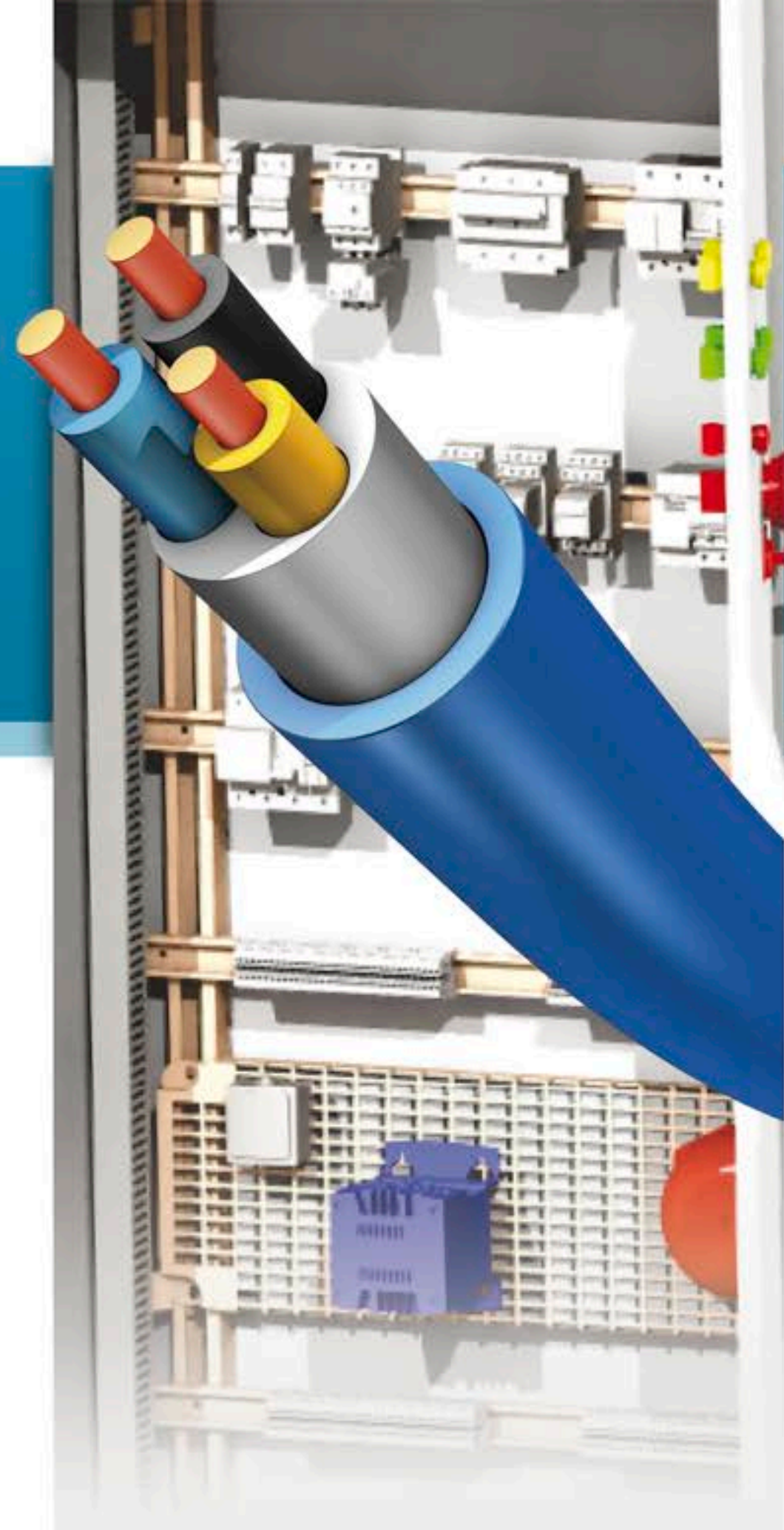


# elecworks™

electrical CAD for the world



## Software for design of automation projects.

elecworks™ is a powerful software tool, that enables electrical designers and automation experts to create automation and electrical installation projects. Through Windows standard interface, engineers can produce better installation designs and make 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 line diagram 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 wires, cables and symbols. When they are inserted or deleted, elecworks™ ensures the continuity of the lines. The I/O table is dynamically linked to the project equipment.

There is no learning curve, using elecworks™ is straight forward. 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 projects but also lets an entire team, collaborate on large scale projects.

### Cable Synoptic & Multi-users: much-appreciated features

The Cable line diagram or Single-Line Diagram (SLD) is a unique tool to elecworks™ to:

- Draw a preliminary project.
- Synthesize all information on an electrical project or a machine.
- Present a professional overview to potential customers and bid for a project.
- Give an overview of cable and equipment needed.

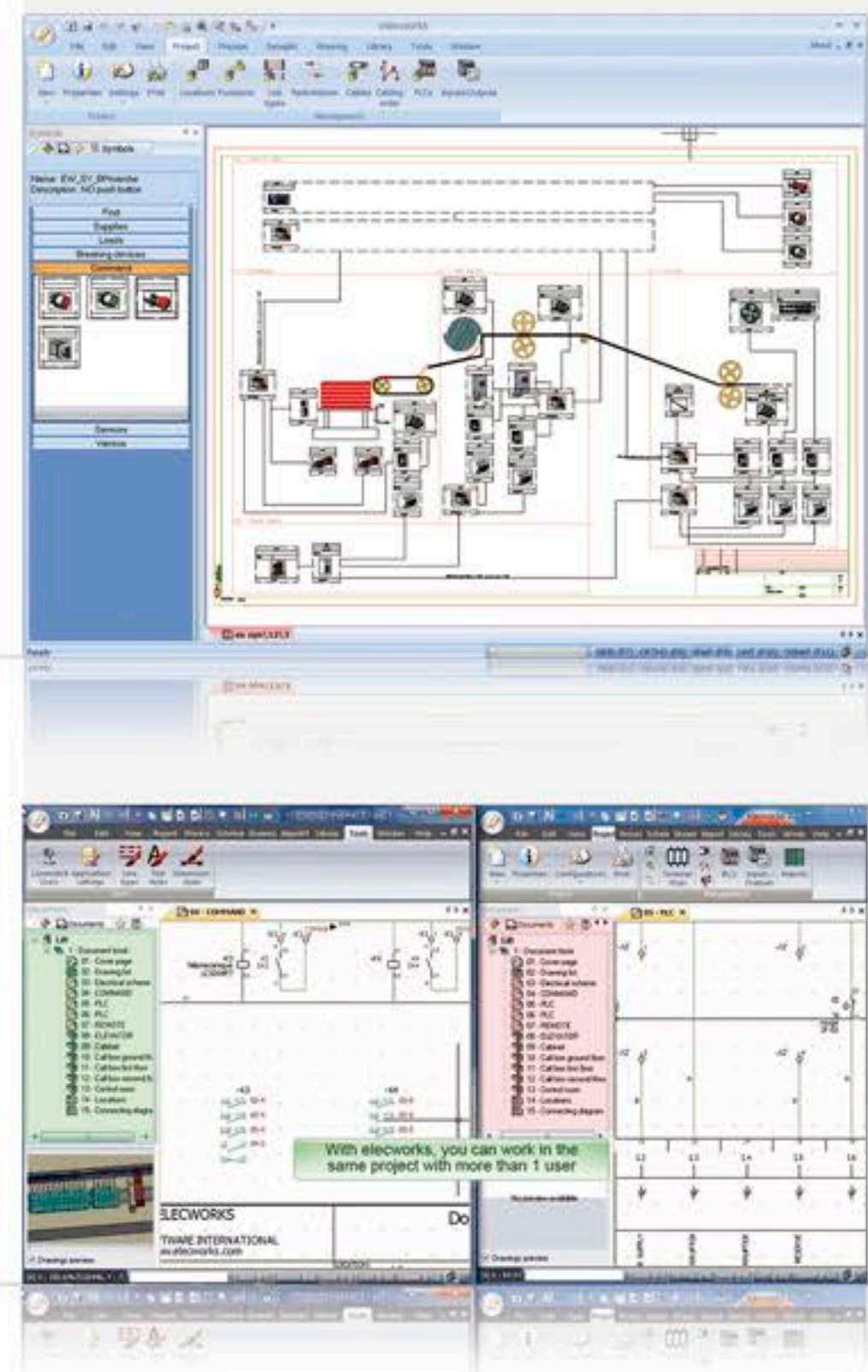
elecworks™ multi-user feature enables collaborative work and better project coordination through:

- The possibility, of any team member, to work simultaneously on the same project, as other members.
- The real-time update for any changes made.
- The chat interface for an immediate exchange with the rest of the team.

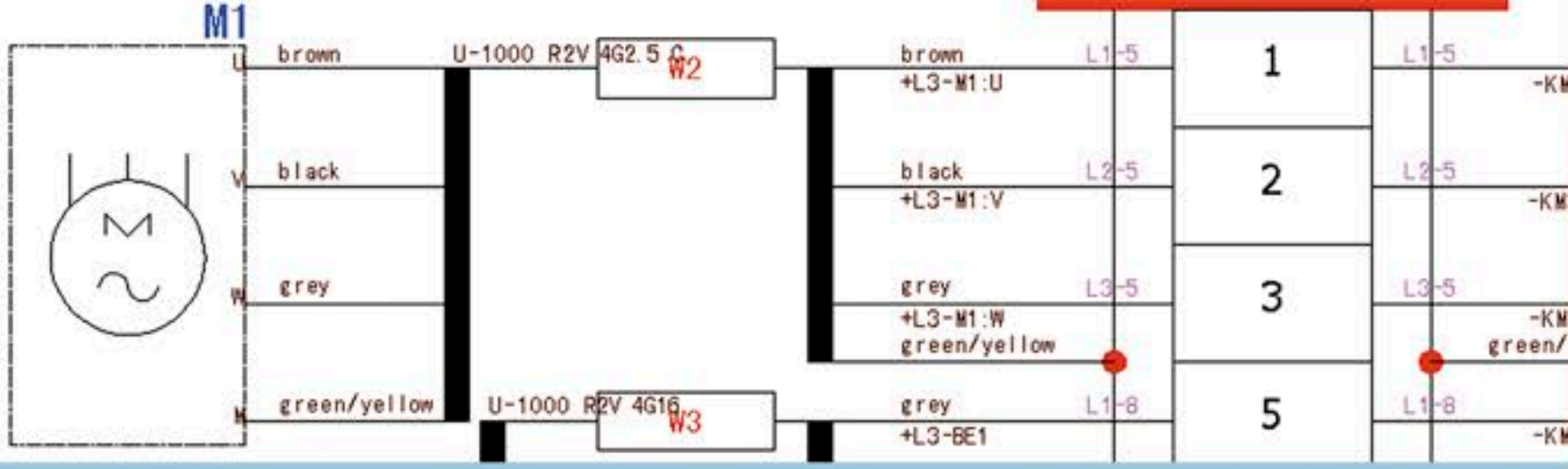
### The technology

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 Microsoft SQL Server, the configuration data are in XML format, the application is 100% Unicode.



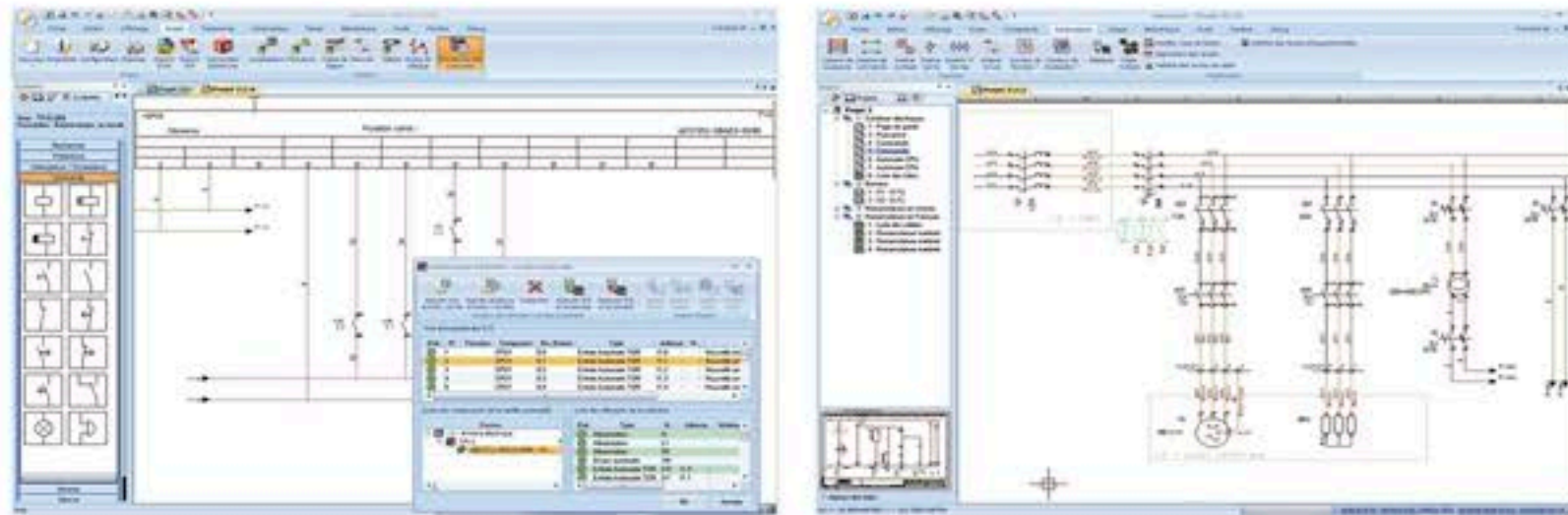




### The user interface

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.

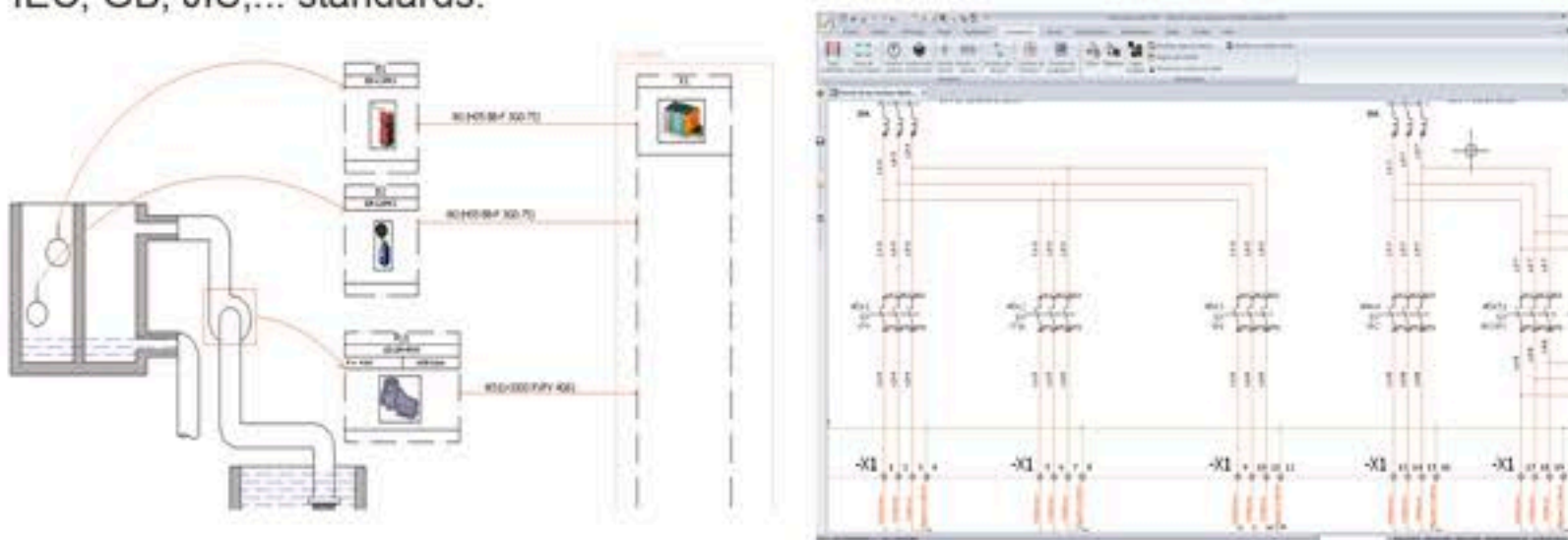


### 2D schematic

**elecworks™** functions as a stand-alone solution. **elecworks™**, is an easy to use electrical CAD software, contains all the features needed to design any electrical project. 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 / DXF format, export data to Excel, PDF navigable or incorporate any type of document into the project.

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, among others features.

**elecworks™** includes the commands and parameters that allow you to utilize existing legacy data such as catalogs, libraries as well as complete templates according ANSI, IEC, GB, JIS,... standards.



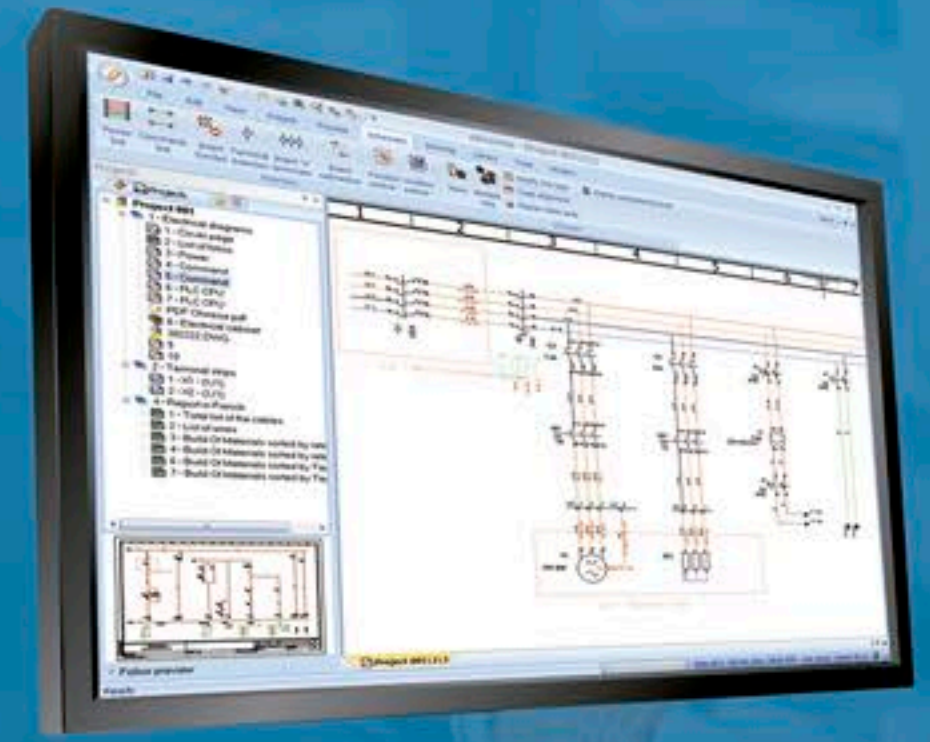
The interfaces have been carefully designed to make **elecworks™** easy and enjoyable to use, with intuitive tools, direct controls (multi-selection menus, shortcuts, macros) and smooth project navigation. With a multilingual user interface, **elecworks™** is also able to translate project data into 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 kind of project.

### An extensive component library

Through our partnership with TraceParts, worldwide leader in 3D modeling of components for engineering; users, can download any **elecworks™** component they need, either directly or through their software and can have free access to a database of hundreds of catalogs and millions of components. **elecworks™** built-in libraries contains nearly 500,000 electrical parts and over 2,500 electrical symbols to cover all designing needs (pneumatic, hydraulic, electronics, air-conditioning, SFC, flowchart...). Selected component models can be added to **elecworks™** library in order to use them in a future. With just the manufacturer name and part number, **elecworks™** users can easily insert components into any project.

### elecworks™ Fluid

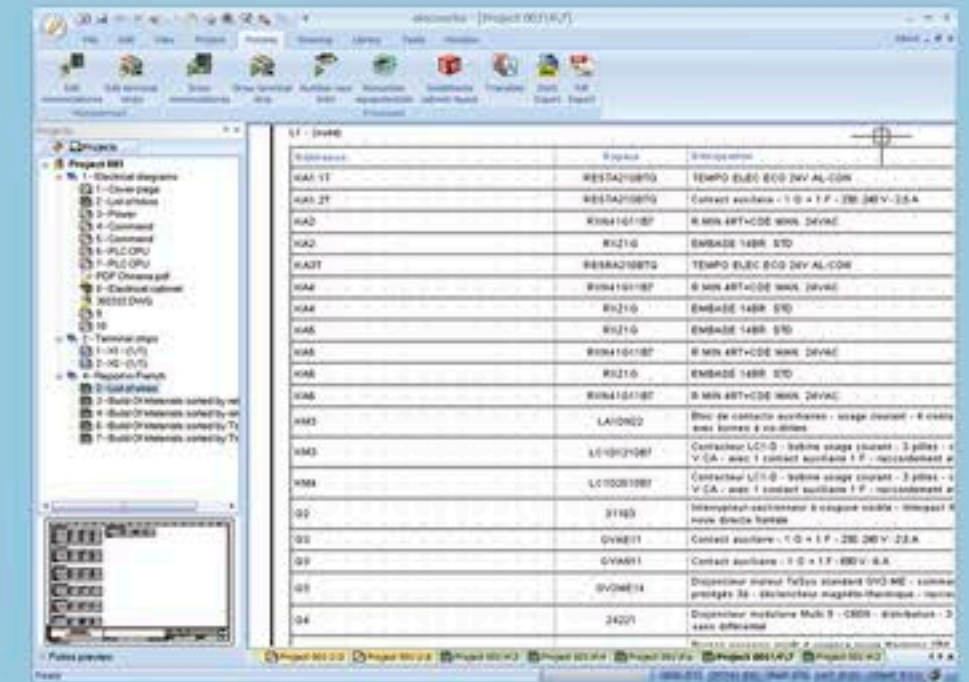
Along with electrical control tools, **elecworks™** enables an interconnection among hydraulics and pneumatics components. This is included in all **elecworks** versions.



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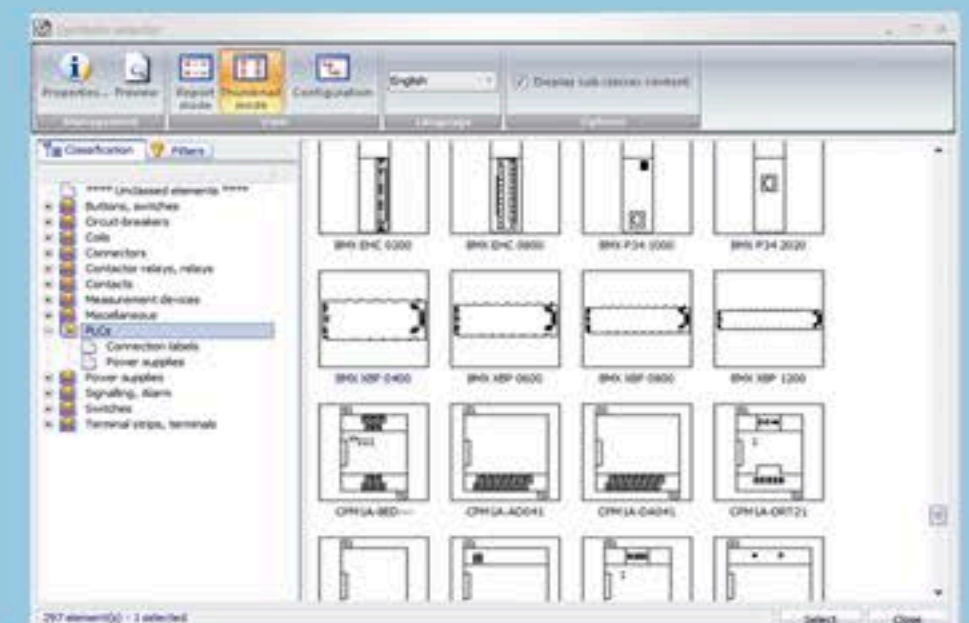
### A database to stock a project data

**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.

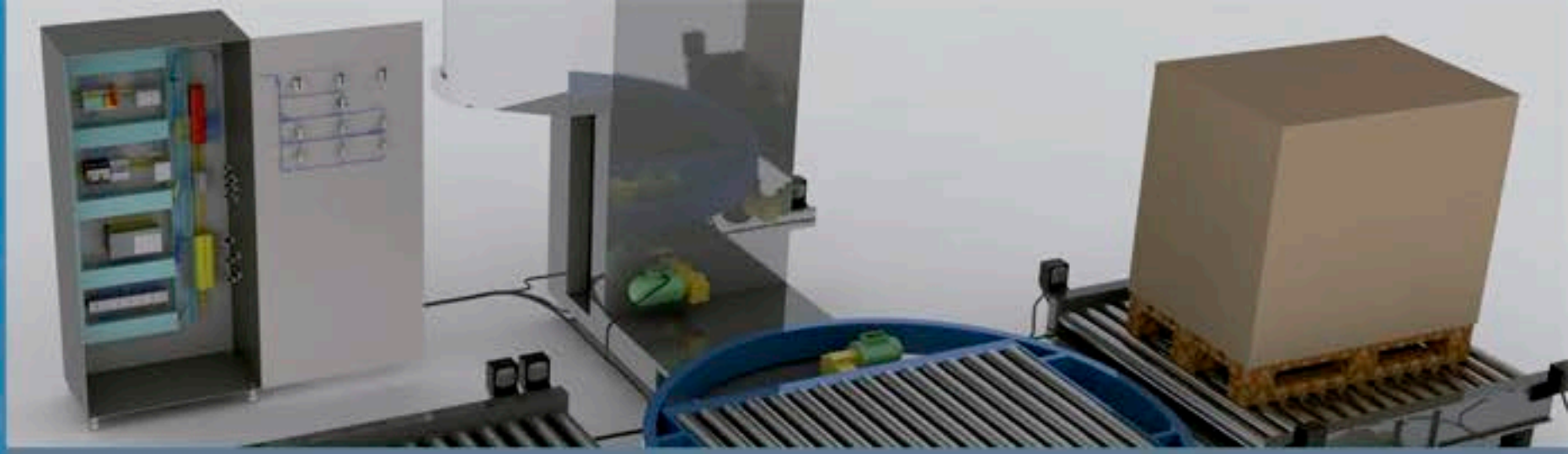


### Connection labels

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 single line diagram will be automatically reflected on the relevant connection label. Connection labels can also be used for the design of electrical harnesses and connector management.







## Our solution packs to meet specific industrial needs

### elecworks™ ONBOARD

A CAD/CAE solution specifically designed to meet electrical and communication projects that have specific requirements in terms of management and design in sectors such as Aerospace, Railway, Automotive and Naval industry... **elecworks™ Onboard** is designed for system suppliers to generate intelligent ESSD's (Electrical System Schematic Diagrams) with specific tool for connectors, harness design and specific reports. **elecworks™ Onboard** comes with a user friendly management interface, through which can be defined everything from your companies preferred standards for drawings naming conventions, to the field prompts that suppliers need to populate.

#### Market

Aerospace, Railway, Automotive and Naval industries.

#### Main benefits

- Set up a unique environment and working space that help users by guiding them so that they design according to companies' standards.
- Enable easy configuration to set up diverse custom design rules and automation processes.
- Automatic reports and data files generation as per projects preset parameters.
- Enable fast creation of new projects from customers standard project templates.

### elecworks™ P&ID

**elecworks™ P&ID** is a dedicated solution to create industrial process design diagrams (Piping and Instrumentation Diagrams, P&ID) and fluid circulation plans (Process Flow Diagrams, PFD). **elecworks™ P&ID** is also available to **elecworks™** users as a new P&ID-dedicated module.

#### Market

Petrochemical, food processing and water treatment industries.

#### Main benefits

- Time-saving design of P&ID and PFD diagrams.
- Built-in library of more than 500 items (valves, pumps, exchangers ...) created from different international standards (ISA / ANSI, ISO, etc.)
- Symbols complying with standards ANSI/ISA-S5.1-1984 (R 2009) and ISO 10628 (R 1997).
- Automatic generation of Bill Of Materials by component type.
- Multi-user environment with real-time updates.
- Automatic cross-reference among P&ID and electrical/control components; pipe numbering feature.
- Efficient project management wizard to include all documentation and easy data exchange.
- Specific and customizable reports.

### elecworks™ FACILITY

**elecworks™ Facility** is the ideal solution for the sizing and design of any electrical installation, where it is necessary to ensure safety, power supply and energy efficiency, together with an optimal design. **elecworks™ Facility** is particularly adapted for the design of facilities such as airports, highways, industrial facilities, energy distribution or buildings.

#### Market

Energy distribution, building and industrial facility sectors.

#### Main benefits

- Integration in a single solution of electrical calculation and design.
- Automatic error checks and anomaly visualization.
- Sizing of wires and protections and automatic multi-standard verifications.
- Calculation report and power balance.
- Simulation scenario.
- Dynamic selectivity and discrimination.
- Single and multi-line diagrams.
- BOM, terminal strips, cabinets, PLCs, relays, black boxes,...
- More than 500,000 manufacturers' references already included.

## tracesoftware

Trace Software is a well-established global software development company with 25 years of expertise in electrical calculation and 2D-3D electrical design solutions. Recognized as an electrical expert by world leading software publishers, Trace Software constantly focuses on cutting-edge innovations and technology watch to better meet evolutions in electrical engineering and specific needs in certain industry sectors.



Trace Software also provides outstanding services to its partners and worldwide customers offering online tutorials, technical webinars, content portal, ticket-based web support, etc.

By setting up structures for content sharing, its software solutions promote exchange between users.

Trace Software solutions benefit from a technology partnership with its sister company TraceParts, who offer 2D-3D models for engineering, develop content libraries for manufacturers and provide content via TracePartsOnline: the leading portal in Europe (1.7 million subscribers; 6.5 million pages seen per month). Some of Trace Software solutions offer direct access to this database.

The Trace Software Research and Development team is chartered to create complete electrical solutions to meet all requirements. These solutions are designed in order to facilitate a complementary data exchange such as the link between **elecworks™** and **elec calc**: created to enhance productivity, an **elec calc** module combined with **elecworks™** enables users to size their electrical installations and to export their project data to the schematic for automatic inclusion in the multi-line diagram (see the **elecworks™ Facility** description).

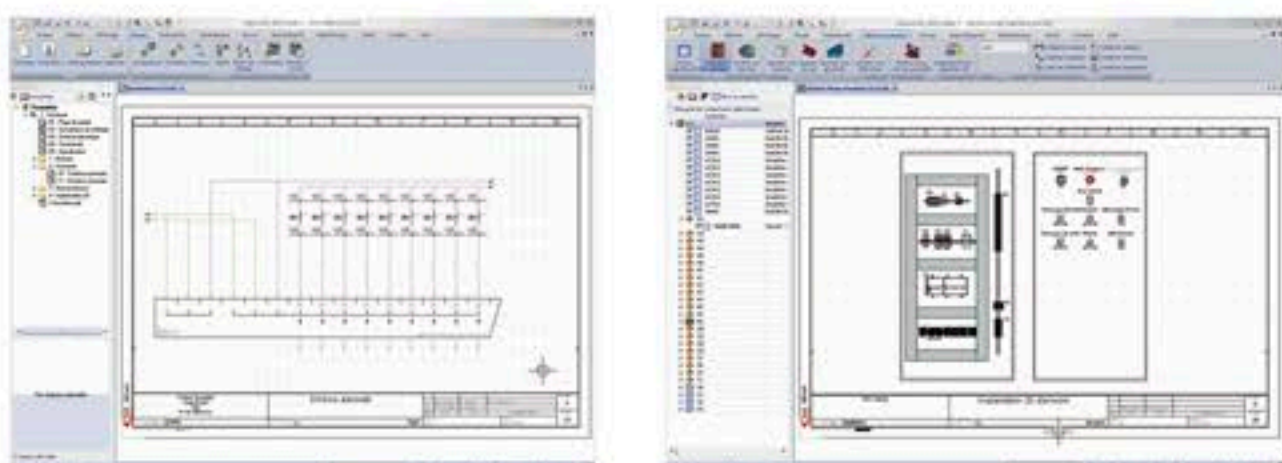


## PLCs management and dynamic insertion

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 greater PLC design flexibility. Users can choose to represent any card either fully or partially by selecting the channels required. Users can dynamically select addresses, represent the cards horizontally or vertically, add personalized descriptions, make changes that will be reflected on the PLC card drawings, etc.



## Panel design layout

**elecworks™** allows to check the size of your cabinet in 2D. Those options enable users to precisely position rails, ducts, devices, etc.

## 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 PDM systems. The **elecworks™** PDM link enables PDM system to control data access, manage revision control and maintain a complete document set via automated options.

## Electrical Content Portal (ECP) for flexible management of manufacturers' catalogs

Two new icons help you choose

- To have manufacturer catalogs as «Local content»: to let you continue to install or update the catalogs already like you do today in your **elecworks** archives or
- «Online content»: to directly access «electrical content portal» with a list of available catalogs and to download only the selected data. You can use the search filter to quickly find a manufacturer.



Electrical Content Portal (ECP) enable users to download catalogs, to share content with other users, to request content, to access directly components with **elecworks™** format under TraceParts technology or to convert automatically existing CAD macros to **elecworks™** format.

The "Catalog" menu includes a search filter to quickly find the manufacturer and the year of publication. In the "Ask for content" menu, the user chooses what he wants (2D data or catalogs) and can leave comments. He can also upload drawings in PDF to provide accurate information on what he wants to see included. The "TracePartsOnline" menu allows direct access to components under TraceParts technology with the **elecworks™** format, i.e. all components with their smart electrical attributes. Finally, the menu "Share" allows users to provide parts for other users.

The last menu enables the conversion of existing manufacturer CAD macros to **elecworks™** format and to save existing drawings in a seamless and automatic way.

The Electrical Content Portal (ECP) is available in 4 languages (English, French, Spanish and German). Access requires a user registration and an authentication by license number.

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