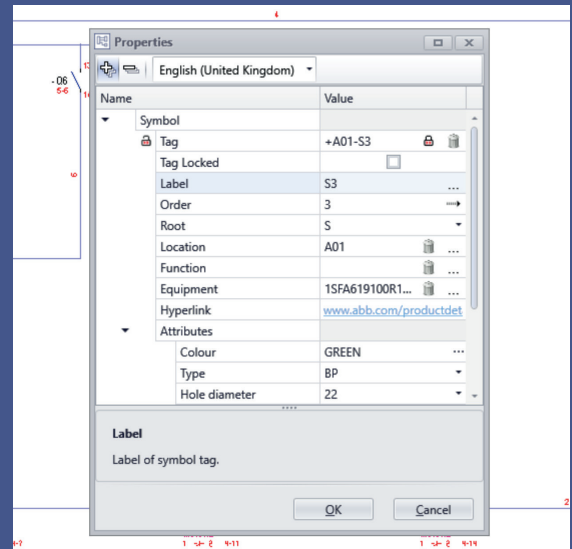
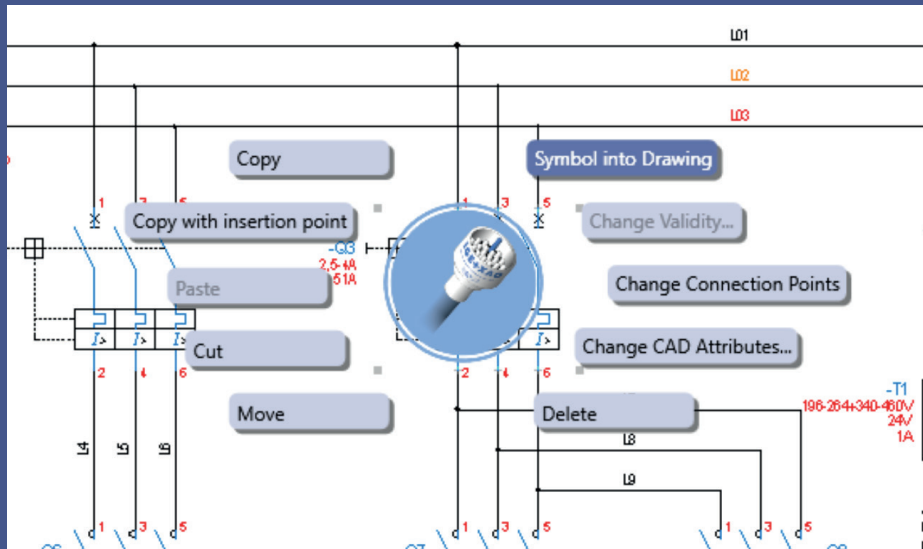
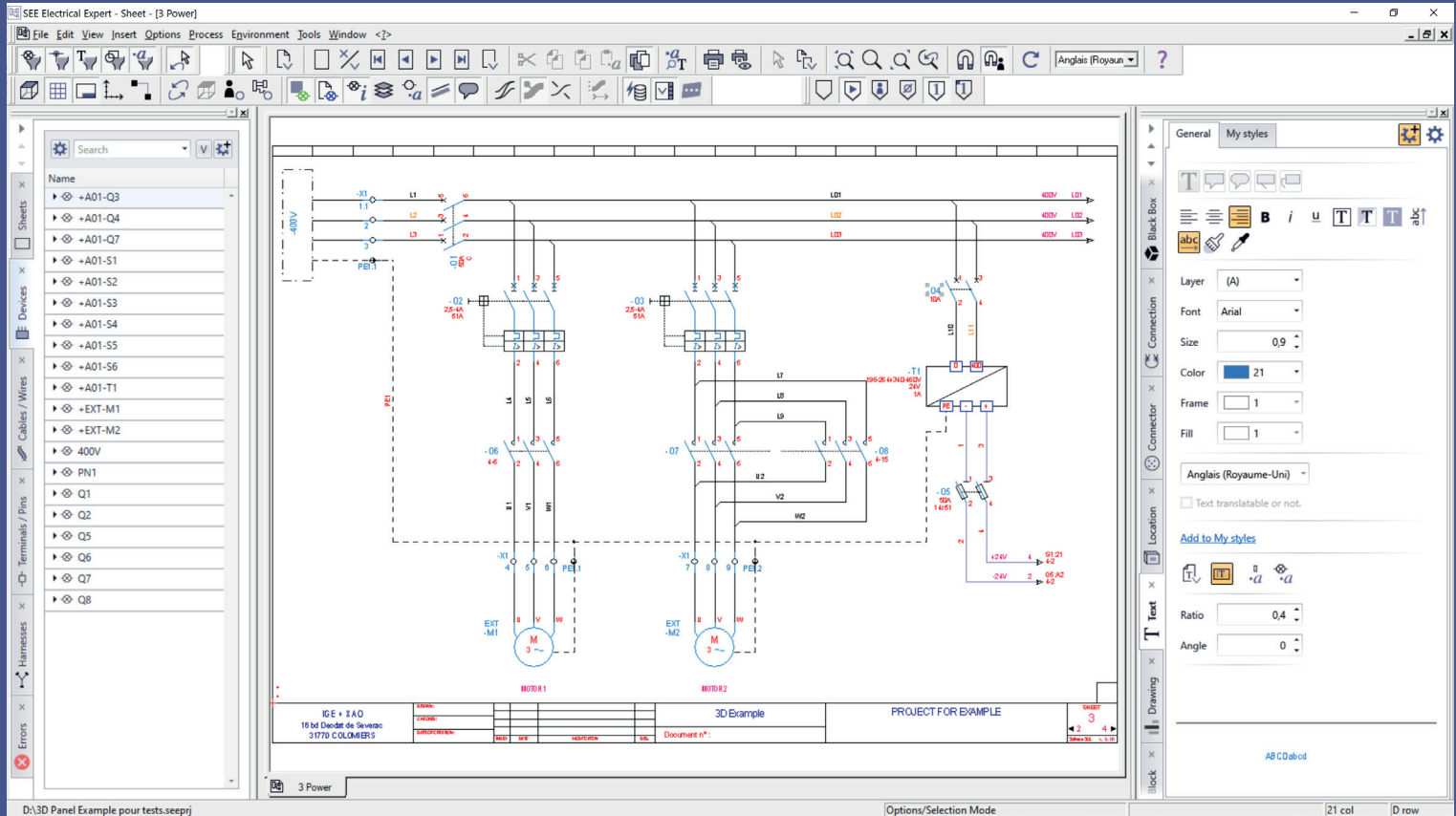




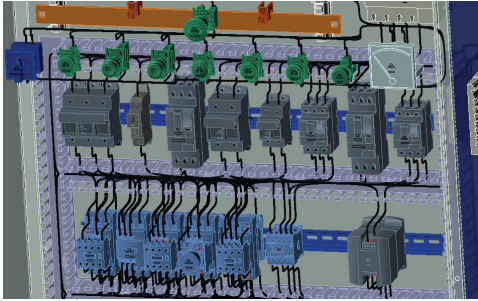
SEE Electrical Expert

All the power of Electrical CAD dedicated to Industrial Automation & Electrical Harnesses



Thanks to IGE+XAO's 30 years of experience, **SEE Electrical Expert** is a reference in the world of electrical design

Innovation



An opening to innovation with the modules:

Concurrent Engineering

All the power of collaborative work in one single module.

3D Panel+

3D electrical panel design.

Harness Documentation

For designing 2D harnesses and automatic routing the wires and cables in accordance with the schematics with maximum reliability.

Open Data

Rapid modification of project data.

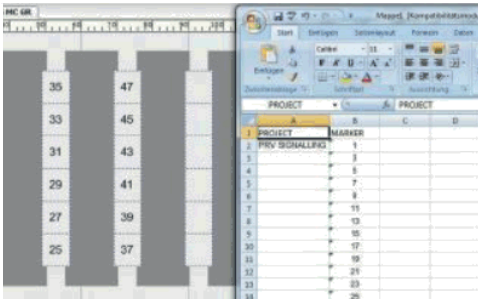
Options & Variants

Electrical project numbering as well as change time reduction.

Automatic Diagram Generation, SEE Generative View, SEE Compodata

Innovative solutions for automatic generation of electrical projects.

Communication



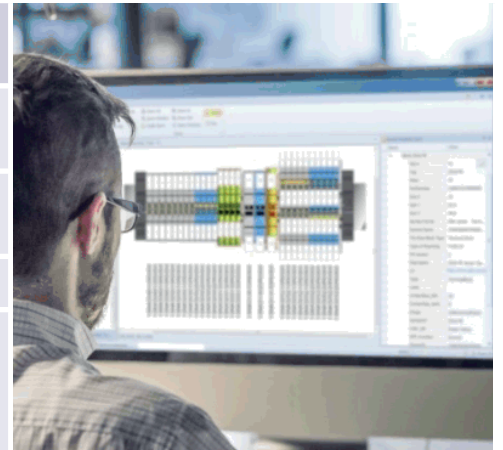
Interfaces with other key software packages:

Mechanical CAD (Catia, SolidWorks, Creo, NX, Inventor AutoCAD, etc.)

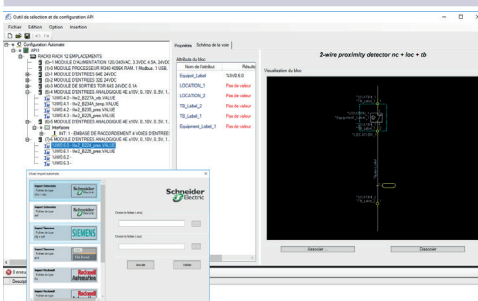
PDM (SmarTeam, Windchill, TeamCenter, Solidworks PDM, etc.)

ERP (SAP, etc.)

Automation and manufacturing software (PLC programming, labelling, terminal block assembly, panel manufacturing, cable manufacturing, documentation, archiving, cost calculation, etc.)



Efficiency



A complete environment for an immediately operational business package:

More than 1,000 electrical standardized symbols (IEC, IEEE, etc.)

Online electrical equipment catalogue (SEE Web Catalogue) with over 1,000,000 (and growing) parts from over 900 manufacturers including ABB, Legrand, Eaton, Phoenix Contact, Rockwell Automation – Allen Bradley, Schneider Electric, Siemens, Socomec, Wago and Weidmüller, etc.)

Many built in design templates (motor starters with corresponding controls, drives, PLC cards, etc.)

Hundreds of working methods provided for symbol tagging, wire numbering formats, terminal strip layouts, connectors, cables, management of interconnections, part list templates, terminal and cable lists, XLS and XML export formats.

Additional modules

PLC

Premium Enterprise

- PLC configuration management
- Network and field bus management (remote I/O)
- Automatic generation of racks and I/O card schematics
- Direct PLC configuration import from Schneider Electric, Siemens and Allen-Bradley
- Address and descriptions list import from MS Excel

Multi-Languages

Essential Premium Enterprise

- Multi-lingual project edition
- Automatic translation tool
- Dictionary of terms editor

DXF/DWG Import

Essential Premium Enterprise

- DXF and DWG (AutoCAD) import

Open Data

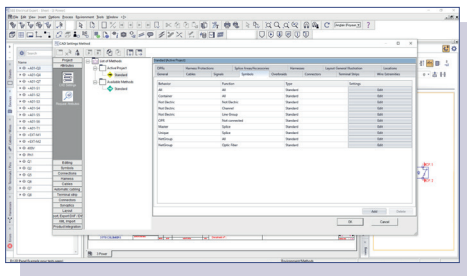
Essential Premium Enterprise

- Data export for quick and easy editing of project data with MS Excel or another spreadsheet package
- Data imported back with consistency control

Simulation Connect

Essential Premium Enterprise

- Logical behaviour generation as Boolean equations
- Model export to simulation software packages (Prosyst Simac)



2D Panel+

Premium Enterprise

- 2D equipment placement
- Associative dimensioning
- Enclosure selection assistance
- Navigation between panel layout and schematics
- Auto wire routing in the Cabinet Layout layout
- Drilling layout generation

3D Panel+

Premium Enterprise

- Schematic and 3D panel design integration
- Collision detection
- Consistency check with the schematic diagram
- Import/export support for DWG, DXF, IGES, STEP and STL
- Advanced 3D wire routing features
- Wireway fill calculation
- Optimal wire lengths calculated
- Manufacturing reports (drilling plans, wire cut lists, etc.)
- Direct output for CNC tools



3D Copper

Premium Enterprise

Requires 3D Panel+ module

- Copper bar design
- Simulation of their integration in the cabinet
- Manufacturing drawings generation

Cabinet Thermal Calculation

Premium Enterprise

- Checking the thermal properties of cabinets
- Power dissipation calculation of all equipment
- Ventilation or cooling calculation required to maintain temperature within user defined range

Harness Documentation

Premium Enterprise

- Logical and physical electrical harnesses design
- Positioning of accessories
- Automatic routing of cables and wires into the harness according to the schematics
- Automatic calculation of harness wire and cable lengths and branch diameters

Jigboard

Premium Enterprise

Includes the module Harness Documentation

- Scaled harness drawing to insert into production tables (formboard/jigboard)
- Control of the bend radius of the branches
- Formboard table splitting into different areas
- Wire grid insertion at the harness extremities
- Branch diameter display

End Fitting

Premium Enterprise

- Definition of equipment required for wire end fittings

Options & Variants

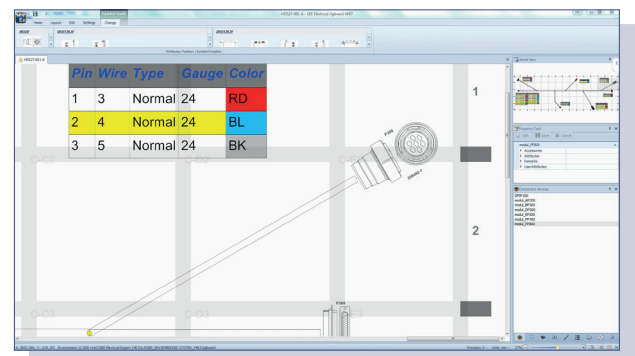
Premium Enterprise

- Single project created containing multiple configurations
- Validity tagging for symbol connections or connection points
- Hierarchical options/variants; validity defined as a Boolean expression
- Schematics and data export filtering

Automatic Diagram Generation

Essential Premium Enterprise

- Automatic generation of electrical projects from a MS Excel file



Additional modules

Environment Manager

Essential Premium Enterprise

- Environment management
- “Local environment” updated according to “reference environment” (stored on server)
- Bidirectional environment synchronization
- Environment merging
- Environment differences detection
- Project object control in relation to those defined in the environment

Concurrent Engineering

Premium Enterprise

Includes the module **Environment Manager**

- Multiple users working in the same project simultaneously
- Conflict management (simultaneous access to data)
- Modifications made by other users are instantly seen
- Online discussions (chat) tools

Caneco BT Connect and Ecodial Connect

Essential Premium Enterprise

Single/multiline schematics automatic generation for an electrical installation designed and dimensioned with ALPI Caneco BT or Schneider Electric Ecostruxure Power Design Ecodial.

PLM Connect

Generic interface for SEE Electrical Expert to communicate with PDM / PLM / ERP tools (PTC-Windchill, ARAS, SAP, etc.)

► Essential level

available for the packages

Essential Premium Enterprise

- Document integration (schematics, part lists and associated documents)

► Premium level (includes **Essential**)

available for the packages

Premium Enterprise

- Project data integration (mechatronic components, equipment, cables, etc.)
- Equipment catalogue synchronization
- Configuration management (Options & Variants)

PLM Connect Teamcenter

Enhanced interface for SEE Electrical Expert to work with Siemens TeamCenter.

► Essential level

available for the packages

Essential Premium Enterprise

- Document integration (schematics, part lists and associated documents)

► Premium level (includes **Essential**)

available for the packages

Premium Enterprise

- Project data integration (mechatronic components, equipment, cables, etc.)
- Equipment catalogue synchronization
- Management of configurations (Options & Variants)

PLM Connect Smarteam

Premium Enterprise

Enhanced interface for SEE Electrical Expert to work with Enovia Smarteam.

- Document integration (schematics, part lists and associated documents)

PLM Connect Solidworks PDM

Premium Enterprise

Enhanced interface for SEE Electrical Expert to work with Solidworks PDM.

CAD Connect (CATIA, SolidWorks, Creo, NX or Inventor)

Enterprise

- Equipment and cabling list export

Data Extractor

Premium Enterprise

- XML, XLS format customized data export

Additional service

SEE Web Catalogue

- Online equipment catalogue with more than 1,000,000 equipment codes and 20,000 specific equipment symbols

Additional packages

SEE Viewer and SEE Viewer Premium

- Document viewing and printing

SEE Generative View

- Equipment cabling schematics generation from logical harnesses data

SEE Project Manager and SEE Project Manager LT

- Document management
- Project user right management



Packages and functionalities

Essential

Single and multi-line schematics creations and modifications

Automatic component tagging

Automatic wire numbering

Real-time cross-referencing

Navigation between related components and signals

Fast editing with copy/paste and modify tools

Cable insertion

Intelligent equipment selection (automatic & customizable filtering)

Schematics annotated from the equipment catalogue data (contact numbers, voltage, current, etc.)

Object and text hyperlinks

Automatic bill of materials generation

Automatic table of contents generation (sheet list)

Project management (by location, function and subset)

Electrical data explorer

Revision management

Error checking

Layer management (project data display control)

“Intelligent” PDF export

DWG/DXF export

Tag export for label markers

Customizable professional environment:

- symbol editor,
- equipment catalogue editor,
- title block and schematics background editor,
- working methods editor,
- block management (whole circuits stored to speed up future work).

Premium

Includes Essential

Customizable automatic parts list generation:

- equipment list,
- components list,
- cables list,
- cabling list,
- wire numbers list,
- and more.

Connector and terminal editor:

- terminal automatic numbering,
- stacked terminal management,
- bridge and neutral management,
- management of end stops and separators,
- cable choice assistance.

MS Excel or TXT export

Automatic generation of connectors and terminal drawings

Automatic generation of cable and connection drawings

Automatic insertion of connector pins on schematics

Enterprise

Includes Premium

Parts list management (difference between 2 revisions)

Importing equipment list to populate the project

SEE Web Catalogue download from an MS Excel equipment list

Synoptic cabling editor

Automatic creation of terminals defined in the synoptic

Automatic cabling between terminals defined in the synoptic

Automatic insertion (back annotation) of connections on the schematics

Management of separate wires and potentials

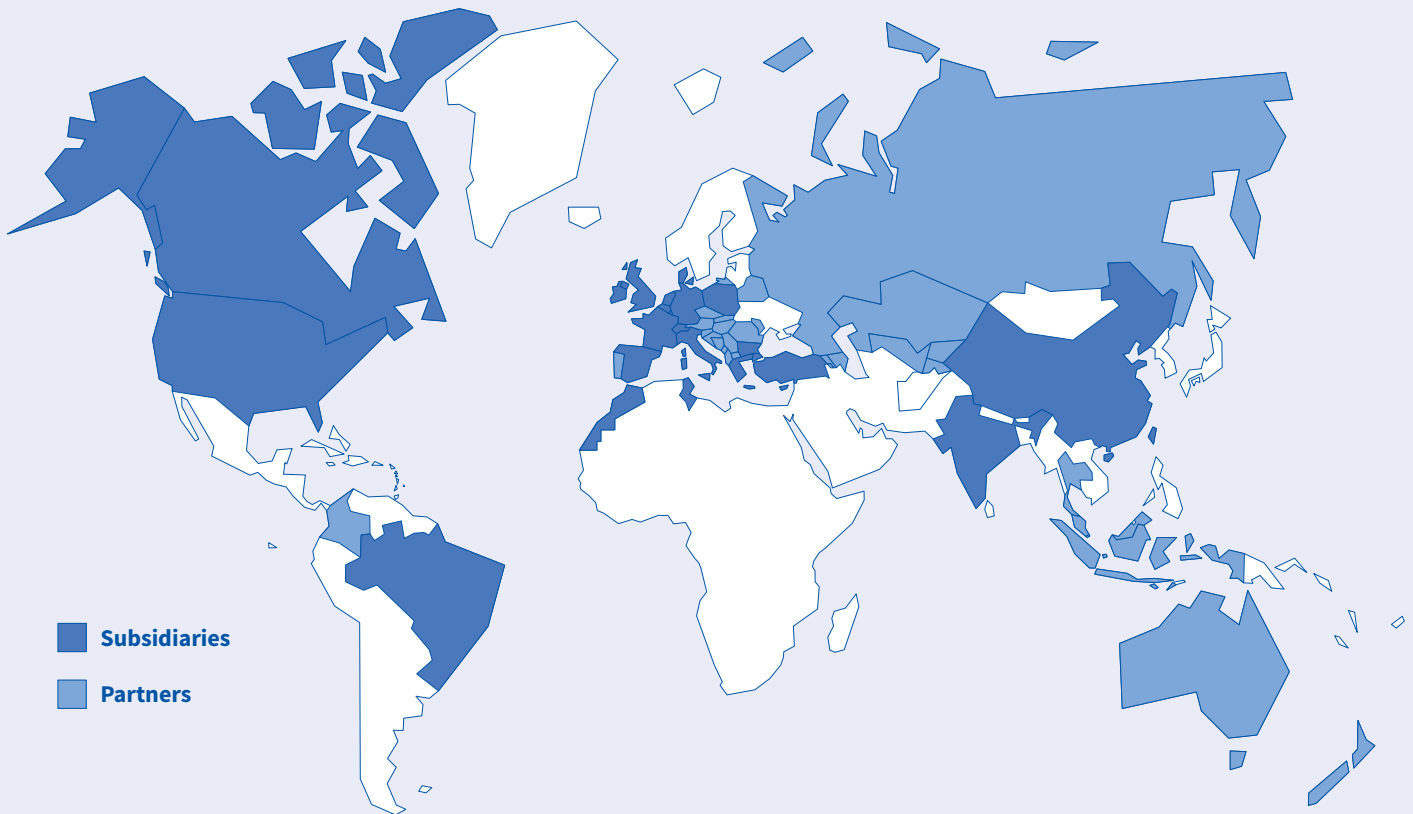
Advanced cabling management


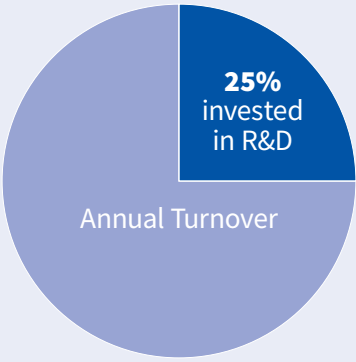






Automatic wire creation and update

Automatic wiring connection according to cabling direction

IGE+XAO

GROUP



Key facts		A strong R&D	Additional services	
	35 years of experience	 <p>25% invested in R&D</p> <p>Annual Turnover</p>		Training
	More than 95,000 licenses sold			CAD consulting
	31 locations in 20 countries			Development integration
	370 employees			