The Power of Electrical Engineering
If you want...

the latest in Electrical CAD software for your electrical engineering designs, with a long-term development strategy

object-oriented design with the security of online checks

the ability to begin anywhere in your electrical design workflow

to work online, on the same project, simultaneously with other users

easy operation under Windows® yet optimized for electrical engineering

to generate intelligent fluid schematics for hydraulic and pneumatic systems

to design cables and harnesses in E-CAD

to reduce production wiring costs with preassembled cable modules

to integrate E-CAD with ERP, PDM and other systems directly through a COM interface

... then let us introduce you to the E³.series

www.zuken.com/e3
E³.series - Introduction

The E³.series is a modular engineering system for electrotechnical, wiring and wiring harness, pneumatic and hydraulic design.

It supports the user throughout the entire engineering process, from development to manufacturing. By being completely Windows®-based, the E³.series is easy to learn and use.

E³.series uses the latest technology and its success is proven with over 1,900 customers worldwide - making it a safe investment in your E-CAD future.

Object-oriented Architecture
The E³.series is based upon an object-oriented database with all modules feeding back to a single data structure. There is no data transfer between the individual modules, ensuring that errors are avoided while increasing the quality of the results and ensuring any necessary changes are made efficiently.

Integration
The bi-directional programming interface permits access to the object-oriented database.
Integrated interfaces make it possible to import and export DXF/DWG, TIFF, GIF, JPG, PDF, DGN, CGM and VRML, STEP AP-214 data. E³.series accepts data from other ECAD systems and is easy to integrate into your existing design environment, with PDM, ERP or 3D M-CAD systems.

Multi-User
The Multi-User option of E³.series Enterprise makes simultaneous engineering possible, significantly reducing the lead time of your project.
E³.series Standard Modules

E³.schematic
Complete design from circuit diagrams to terminal plans and BOMs. Object-oriented technology and online verification provide design tools in the areas of electrical engineering, hydraulics and pneumatics.
- Circuit schematics for electrical engineering
- Hydraulics and pneumatics
- Logic and electrical checks
- Online terminal plans
- Online bill of materials
- Automatic connections

E³.fluid
Makes it possible to design hydraulic and pneumatic systems with all the advantages of the object-oriented E³.series functionality, either as a stand-alone module, or together with the electrical design in one complete system.
- Circuit diagrams for hydraulics and pneumatics
- Online functionality with all E³.series modules
- Online bill of materials
- Logic checks for active error avoidance
- Enhanced graphic properties
- Symbol rotation in any angle
- Reports for production, start-up and service

E³.cable
For development, design and documentation of electrical systems in automotive and transportation, machinery and heavy equipment, military and aerospace sectors as well as other industries. Users can generate specific views for design, production and service.
Design your system with the help of E³.cable’s integrated language database. It supports numerous languages and all Windows® fonts. By simply switching, any text is displayed in the desired language. With UNICODE, Asian characters are also available.
With a user-interface available in 10 languages, E³.cable is used in many countries around the world, in the native language.
- Documentation of cables and cable harnesses
- Verification of mating connectors and connector pin terminals
- Multiple views of cable for design, production and service
- Interface with 3D M-CAD systems
E³.formboard
For manufacturing of harnesses, the E³.formboard option offers additional functions to create a scaled 1:1 drawing of a harness. The formboard drawing is a view of the cables and harnesses defined in the schematic drawing.

- manufacturing length definition on any segment
- automatic segment adjustment
- predefined adjustment direction
- dynamic connector tables
- easy rotation of branches
- wire assignment in connector tables
- addition of cable protection (e.g. shrinking tubes) and fasteners
- addition of nail points and branch attributes

E³.view
Distribute original design data. The intelligent circuit diagrams generated in E³-series are available for viewing. View complete documentation, do a quick search and print as required – a qualified data exchange with production, service, the supplier and the customer is guaranteed. This module is available free of charge.

E³.redliner
For use in designing, implementation and production phases. In addition to E³.view functionality, any required modifications to graphics and text can be documented with this module. By exchanging the redliner information, modifications can be completed in the E³-series original drawings. Individual changes are only a mouse click away by using the simple search function.

E³.panel
For use in designing, implementation and production phases. In addition to E³.view functionality, any required modifications to graphics and text can be documented with this module. By exchanging the redliner information, modifications can be completed in the E³-series original drawings. Individual changes are only a mouse click away by using the simple search function.

E³.panel
Connect the panel layout with the corresponding schematics online and generate complete documentation for production. Automatically calculate wires and connection routes enabling preassembly of wires and cables.

- panel layout
- automatic wiring
- cross-section checks
- control wiring machines, drilling machines, etc.
E³.series - Industry Solutions

Aerospace / Defense
E³.cable optimizes the structure of your wirings by managing effectivities. Structured wirings according to ATA Chapter, are also supported. Disconnects can be displayed automatically as plugs or receptacles. Bundles, wire numbers and additional attributes can be visualized more easily. Online and design rule checks guarantee excellent results.

Automobiles
From concept development through system and cable design, E³.cable assists you every step of the way. Plug-ins can be used to run customer-specific programs i.e. to assign specific type and function remarks to the E³.cable object. Direct connection to your integrated design environment eliminates duplicate input and design errors.

Machinery
E³.schematic and E³.panel offer a comprehensive array of specific functions for the development of machines. Automatic functions in placement of components and the definition of connections make it easy to draw a schematic design. Once created, the terminal plan is always correct – the object-oriented architecture of E³.series makes this possible.

Wires and cables are easily handled within E³.series. In parallel the physical build up of the cabinet can be developed. Cable ducts and mounting rails in addition to snap functions speed up the design process. Automatic routing calculates the exact length of the wires in the cabinet. Interfaces top strip, cut and mark machines, drilling and milling machines offer the data flow into manufacturing. E³.series supports standards – IEC 61246 for electrical design and STEP AP214 for the connection to 3D mechanical systems.

Appliances
Import circuit board connector data directly into your documentation. The complete connector description with corresponding signal information is available at the press of a button. With it you can generate an overview of the association between electronic components. Additional devices can be placed and easily connected using E³.cable.

Commercial Vehicles
E³.cable supplies components with the appropriate mating connectors allowing you to choose from all existing cable harness connector types. Connector pin terminals, single-wire sealing and blind seals are managed down to every single pin. Placing physical objects like hoses, tubes and clips, allows you to define the cable as required.

The E³.cable 3D harness design bridge synchronizes all relevant data with 3D harness design systems.

Railways
E³.cable, together with E³.panel, makes it possible to develop locomotives, railway cars and complete trains. The internal assembly and wiring of junction boxes as well as the overall topology of the different wagons where these junction boxes are placed and routed is covered by E³.series. Using the Multi-User environment, multiple engineers are able to work simultaneously in the same project – always under the control of the object-oriented E³.series design kernel. This offers the complete system overview, specific documents for manufacturing and service, up to CNC data for strip, cut and mark machines.
About Zuken

The Challenge
More quality, more functionality, in less time, with less cost; it’s a common story in today’s market place. The increased competition and requirement to operate on a global scale make these end-user demands ever more challenging to meet. So companies need to be innovative and dynamic to stay one step ahead of the game – this is where Zuken can help.

What We Do
Zuken works globally with leading companies to optimize their electrical and electronic engineering design and related manufacturing processes through the provision of leading-edge software and consulting services. Our unique combination of proven experience, technological expertise and agility creates best in class solutions. Our transparent working practices and belief in integrity in all aspects of business produce long-lasting and successful customer partnerships.

Security of Solid Foundations
Zuken’s robust market position is reinforced by an established position in the industry with over 30 years’ experience, and solid financial foundations. As a stable multinational company, listed on Tier 1 of the Tokyo Stock Exchange, Zuken is able to remain focused on being a long-term innovation and growth partner.

The security of an investment by partnering with Zuken is further reinforced by the company’s people – the foundation of Zuken’s success. Coming from a wide range of industry sectors, specializing in many different disciplines and advanced technologies, Zuken’s people are able to relate to and understand each company’s unique requirements.

Software Solutions for Electrical & Electronic Engineering
Our Focus, Your Benefit