# Elipse E3

HMI/SCADA PLATFORM FOR CRITICAL MISSION APPLICATIONS

elipse software

Elipse E3

# REAL-TIME SUPERVISORY CONTROL SYSTEM FOR CRITICAL APPLICATIONS

Elipse E3 is a well-established SCADA platform, offering scalability and constant evolution for several types of applications, from simple HMI interfaces to complex operating centers in real time. Developed to meet current and future connectivity requirements, E3 is the ideal SCADA system for your project, no matter the extent of your needs.

## BENEFITS

- Connection to most devices (PLCs, remote devices, data hubs) on the market;
- Less time required for developing and maintaining applications, which can be standardized via libraries;
- Integration with corporate and management systems;
- Quick, long-lasting return on your investment;
- Part of an integrated monitoring and management platform, which also comprises the electric system operation (Elipse Power®) and real-time information management (Elipse Plant Manager®).

## MAIN FEATURES

- Supports multiple users and projects: allows you to edit and run several databases simultaneously;
- Native redundancy with databases and alarms synchronism;
- Reusable graphic objects libraries and data structures;
- Smart, powerful screen editor;
- Transparent native connection between remote servers ;
- Safe, compacted data transmission;
- Easy-to-manage application;
- Highly flexible alarms and events management;
- Powerful scripting tool;
- Native access to commercial databases;
- Integrated logs, queries, and reports tool;
- Highly secure and traceable, complying with FDA rule CFR 21 Part 11;
- OPC Classic and UA;
- Integration to Windows Active Directory.

## COMPONENTS

### E3 STUDIO

This unique tool for SCADA configuration works as a universal development platform. With a modern, friendly environment, it offers a complete graphics editor for setting up server tasks and creating user operational interfaces, including a script editor. Projects can be edited by different users simultaneously for teamwork purposes.

### E3 SERVER

This is the application server, where the system's main processes are executed, and where databases' redundancy and synchronism take place. Robust and dependable, it allows data and graphic information to be sent uninterruptedly to clients (Viewers) anywhere. Available in 32 and 64-bit versions.

### E3 VIEWER

This is the user operational interface that allows the application to be viewed and operated from any computer, via intranet or an internet browser. The application (project) does not need to be installed onto the client machine, as all components, screens, and libraries are downloaded from the server and periodically registered and updated.

There are two types of E3 Viewer licenses: Viewer Control – which allows any type of operation and viewing – and Viewer Only – which is restricted to viewing and queries. The number of Viewer licenses held will determine the number of simultaneous accesses to the server.

## OTHER PACKAGES

**E3 LITE:** Ideal for smaller processes, it comprises a single Viewer and a reduced number of I/O points.

**E3 GATEWAY:** Indicated for protocol conversion applications, it offers a wide array of client or server energy protocols (IEC 61850, 101/103/104, DNP 3.0, ICCP, among others), in addition to the main devices on the market.

**E3 HMI:** Human-machine interface designed for local operation that can communicate, but cannot record data onto a disk (such as alarms and historical data).

**E3 ACADEMIC:** Exclusively for use in educational institutions, this license allows students to develop and simulate supervisory control projects.

## RESOURCES

### APPLICATION DOMAIN

The Application Domain is the set of servers, projects and libraries that make up an E3 application. The Domain establishes how the Viewer operates and configures native redundancy between servers. Projects and libraries can be dynamically added, removed, or edited without stopping or harming system execution, allowing functions to be distributed in different systems via freely segmented databases.

### ELIPSEX OBJECTS

ElipseX objects represent a major advance in SCADA methodology, concept, and development. In this way, you can create graphic objects that will be reused on different screens, as well as data structures to be executed in servers. These objects can contain properties, methods, calculations, and any other type of graphic symbols, such as other ElipseX and third-party components, drivers, I/O tags, alarm settings, and historical data. Consequently, a whole new application can be developed with components that can be used several times, including a protection system for third-party editing and execution.

### SCRIPTING

Elipse E3 features a powerful event and object-oriented scripting tool, capable of mathematical and logical operations, as well as structure handling. You can create your own events, which are executed when the variables' status changes or at fixed intervals. Additionally, you can use scripts inside ElipseX objects, which optimize the developed components in order to avoid repeating codes inside the application.

### COMPLETE GRAPHIC EDITOR

With Elipse E3, you can create any type of visualization and operation interface, with superior vector graphic quality. Resources such as zoom, layers activation, rotation sliders, and irregular fillings are some of its features, in addition to an extensive gallery with over 3,000 vector symbols ready to be used.

### LINKS AND ANIMATIONS

Any property or object inside Elipse E3 can be directly connected to any other variable or object in a very simple way by using different types of connections, thus creating dynamic animations and links in a logical, intuitive manner, even inside ElipseX components.

### DATABASES AND HISTORICAL DATA

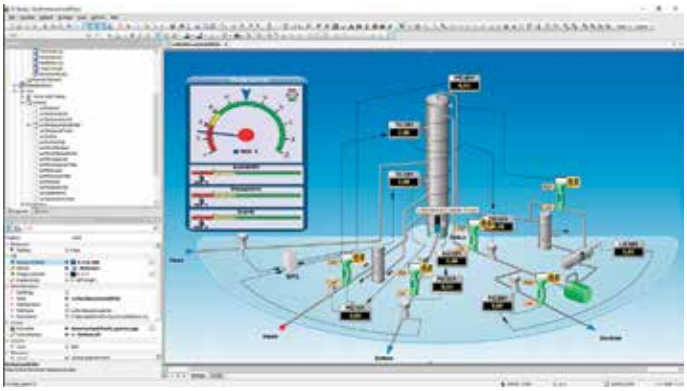
Elipse E3 does not use any proprietary database. All the information from alarms, historic, formulas, and other process data are stored in one or more user-defined databases, with native support to Microsoft SQL Server, Access, and Oracle. The E3Query object allows you to easily create and execute any type of database operation, either by selecting tables, fields, filters, and sorting options with a simple click, or by editing the SQL command directly.

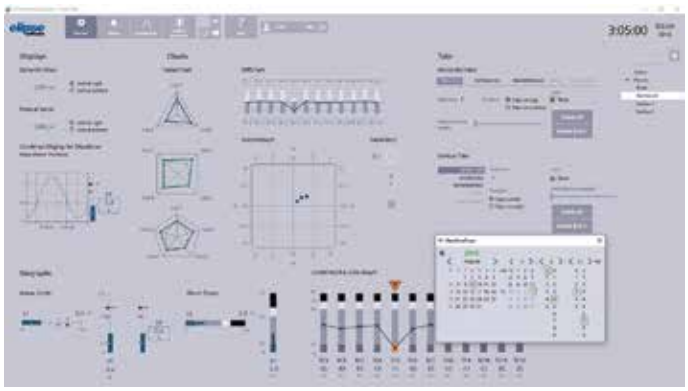
### ALARMS AND EVENTS

Through an advanced alarms and events system, you can organize, categorize, arrange and filter messages in several different ways with E3, which helps manage complex systems and control centers with hundreds of users. Functions such as suppression, shelving, and dynamic categorizations, as required by standards such as ISA 18.02 and EEMUA, can be easily obtained via definition of hierarchic and relational links between main components, like areas, objects, and alarm sources.

### E3 PLAYBACK

This module uses the same operational screens to interpret past events on any type of process. It displays values, animations, statuses and charts from any point in the past via back and forward control windows, in order to understand the causes of any incidents or disturbances, thus creating points of attention and shareable videos.





## ADDITIONAL MODULES

### I/O DRIVERS

Elipse Software has over 450 I/O drivers for the different protocols available on the market. They connect to any device, such as PLCs, SDCDs, controllers, protection relays, and meters, all in a quick, robust, and reliable way.

### REMOTE DOMAINS

With this resource, a Domain can access the variables from other Domains executed on different servers. It allows an application to gather data from several other domains, acting as an operational center, with no need for reconfiguration; this makes for an agile process, with great system reliability.

## COMPLEMENTARY PRODUCTS

### ELIPSE TREND EXPLORER

This product is designed for historic data visualization and graphic analysis in a quick and intuitive way. Compatible with Elipse E3, the Elipse Trend Explorer accesses the application database, and works as a platform for displaying historic data.

### ELIPSE PLANT MANAGER (EPM)

Elipse E3 is natively integrated with Elipse Plant Manager (EPM), a real-time data management platform. With a powerful environment for visualizations and analyses, its structure for collection and storing is extremely efficient. While processing and calculating indicators, it acts as a crucial tool in the continuous search for better quality, lower costs, and higher operational efficiency.

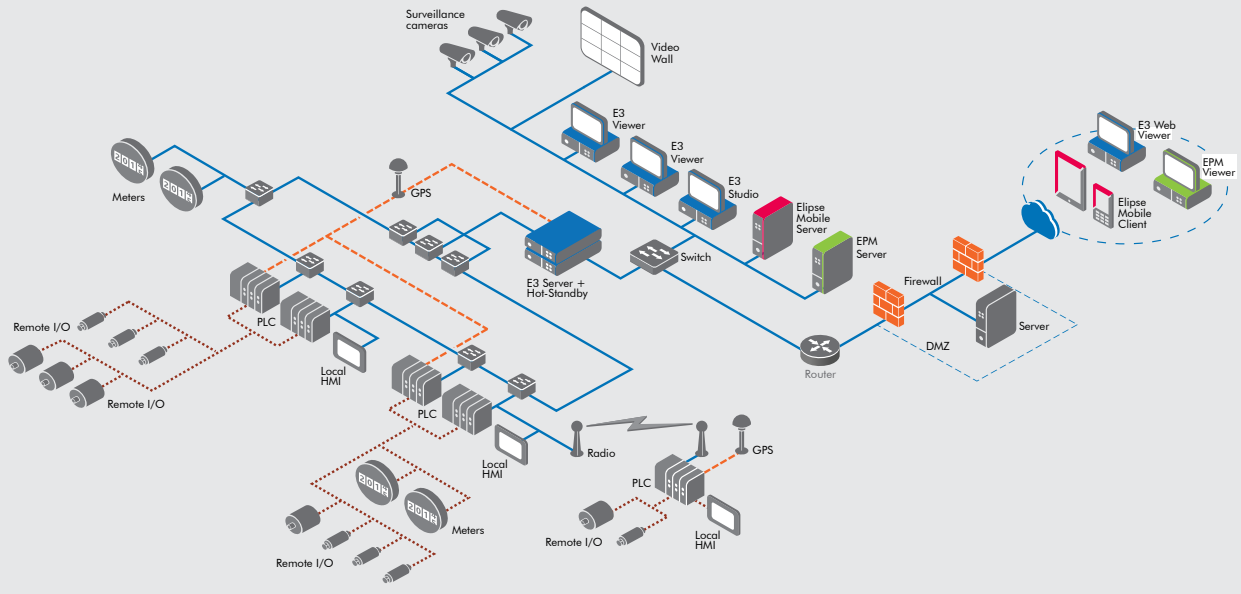
### ELIPSE MOBILE

Elipse Mobile is a mobile platform for SCADA integration that allows indicators to be monitored and commands to be sent to devices. It can be quickly and easily integrated into Elipse E3 with no need for further changes to the application, thus making it easier to display the data collected by the SCADA in tablets and on mobile phones. Available for Android, iOS, Windows, and Web.

### ELIPSE ALARM MANAGER

Web platform integrated to Elipse E3 that allows the life cycle of alarms and events to be managed; it enables you to track changes, create scenarios, and identify and analyze the causes of disturbances and excesses in order to increase operational security and quality.

## ARCHITECTURE




Elipse Software is a global software company, and one of the leaders in the Brazilian market. Established in 1986, it has since worked with partners in more than 30 countries and had over 40,000 systems installed worldwide.

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