

EXPERTISE BEYOND CONTROLS

# TRAINTOOLS®

Software



# The Best of Both Worlds.

TrainTools is a modular set of programs that uses the latest Windows technologies to operate Series 5 control systems.

The TrainTools programming package allows users to design, document, and configure the control system — including the operator interface.

TrainTools is the key to quick and affordable engineering of Series 5 control systems.



# Distributed Operator Interface

*TrainView® (TV), CCC-developed operator interface software, provides a state-of-the-art object-based graphical interface to all Series 5 controllers. TV's full integration into the TrainTools environment simplifies configuration.*

TV incorporates many features designed specifically for turbomachinery applications.

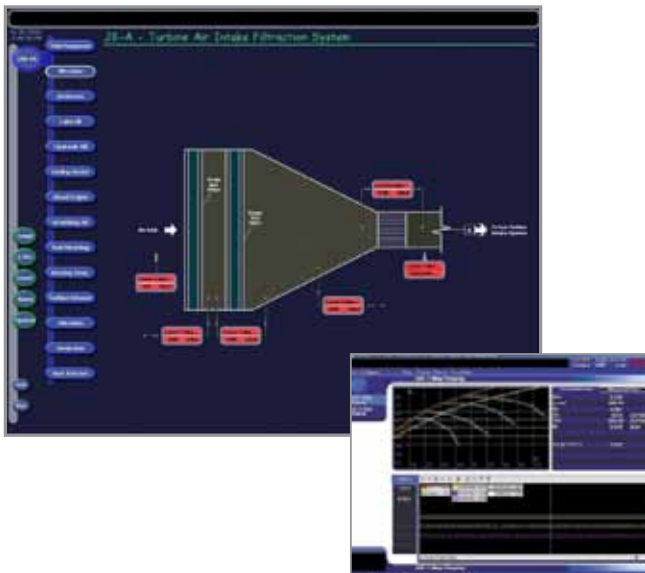
- ▶ Archiving of critical events with better than 100-millisecond resolution
- ▶ Dynamic compressor and turbine map displays with efficiency calculations
- ▶ Other machine diagnostics information

TV also has many of the features of the general-purpose human-machine interface (HMI) programs, such as many pre-defined library objects and built-in visual basic scripting.

Other components of the distributed operator interface are:

- ▶ OPC server — allows OPC client programs (such as TV or other OPC-compliant clients) to communicate with the Series 5 controllers
- ▶ Alarm server — offers alarm as well as event-management and reporting facilities; all alarms and events are provided with the controller's time stamp, giving resolution of 10 milliseconds for critical events and alarms
- ▶ Archival data manager — gathers and stores information obtained via OPC interface; information can be displayed using trending facilities provided in TV, or exported in a number of standard formats
- ▶ Several ActiveX objects — including dynamic compressor map display and trender

With client-server architecture, TrainTools can be distributed across a network. Therefore, the OPC server and project database can reside on one machine (server), while TV can reside on another (client).



# Powerful Engineering Programs

*All TrainTools components operate in Windows 2000 environment and are fully integrated. The TrainTools package includes the following programs:*

- ▶ Project Builder, a comprehensive tool using the Project Tree structure to build a project database. Project Builder's interface can be used to establish the connection between a process tag, control system I/O designation, process variable used in the software. All of this can be accomplished using standard Windows drag-and-drop techniques. Project Builder is much more than a documentation tool — tightly integrated with the IEC-61131 (formerly IEC-1131) programming environment, it also generates code for downloading to the controller.
- ▶ Application Editor, a full-service graphical editor for creating IEC-61131-compliant software. Integrating the Application Editor with the Project Builder saves valuable engineering time by eliminating redundant data entry.

The TrainTools programming package also includes the following troubleshooting, maintenance, and online configuration tools:

- ▶ Series 5 configurator, highly flexible application software that allows operators to change a wide range of controller configuration parameters online.
- ▶ Fast recorder, which can be used to view strip-chart type records of any data point in the controller with 50-millisecond resolution.



## *For more information*

about TrainTools and other state-of-the-art products from the world leader in turbomachinery control, please contact a CCC office near you. We are uniquely qualified to solve turbomachinery control problems, and we will help you achieve maximum turbomachinery performance regardless of your equipment or process.



# Integrated Engineering, Configuration and Operation

*TrainTools software package features a high degree of integration between project engineering, system configuration, and operation. One of the main ideas behind TrainTools is to enable engineers to simultaneously design, produce documentation, and configure the control system without detailed knowledge of PLC programming. Engineers enter project information only once. TrainTools then uses this information to generate desired documentation (such as an I/O listing) and automatically create and configure required elements of the control system, including the operator interface.*

Once initial off-line configuration of the system is completed, TrainTools permits a wide range of changes in control system behavior online through parameter adjustment, without reprogramming the system.

The key element of TrainTools programming is an engineering database, which includes all system specifications, such as:

- ▶ Instrumentation specifications
- ▶ I/O lists
- ▶ Alarms, events, and corresponding messages
- ▶ Control system hardware and software

In addition, the engineering database includes configuration of the operator interface and the data archival system. The database contains all relationships, or “connections” between data elements needed to fully define all engineering aspects of the project.

The top level of the user interface, which is used for viewing, modifying, and building the database, has a Project Tree structure. The information is arranged in a hierarchy that reflects the plant configuration and the control system structure. Engineers specify associations between the field instrumentation (such as the tag name of a transmitter), the control system I/O (such as terminals and control system I/O channels designation), and the variable name used by the control system software.

TrainTools software uses this information to automatically generate portions of the control program dealing with I/O assignment and processing, alarm messaging, and operator interface. By automating low-level programming details, Series 5 control systems can be engineered more quickly and cost-efficiently than competing systems.

***TrainTools — integrated engineering and operation, multitasking interface, and powerful engineering programs***

Global experience. Global support.



Australia / Brazil / China / India / Italy / Netherlands / Russia  
Saudi Arabia / Singapore / U.A.E. / United Kingdom / United States

*Contact your local sales representative. Please visit our website:*

**[www.cccglobal.com/offices](http://www.cccglobal.com/offices)**

