OPC500:
Basic Industrial OPC Software for Communications & Control

Duration:	**1 Day Classroom or 6 hours Online**
Audience:	**Process Control Engineers, Application Engineers, Analyzer Technicians, DCS technicians, Instrument Engineers and Supervisors.**
Prerequisites:	**Some plant experience and/or a 2-year associates diploma in technical field.**
Course Material:	**OPC training slides, various OPC software products - OPC Servers, OPC Clients, OPC Explorers and OPC Browsers.**

Course Description and Objectives:
OPC (OLE for Process Control) is now the latest, most modern and powerful communications protocol for the industry. Using OPC, many data transfers can be quickly and effectively facilitated. In addition, many powerful, custom applications can be developed and implemented on an OPC server-based computer connected to the DCS.

This course shows you how to use OPC for many important DCS connected applications, e.g.: bringing online data from gas chromatographs into the DCS, allowing operator entered data on an operator HMI screen to get downloaded into the DCS.

This course also shows you how to connect two independent OPC servers together easily with special software. The course covers how to pull/push data to and from DCS/PLC to host computers. It teaches how to use signal processing and validation for increasing safety and reliability in chemical processes.

The course teaches how to conceive, design and implement new process control, advanced control and communications-related applications using OPC, level-3 computers and DCS/PLC.

Learning Outcomes:
At the end of the course, attendees will clearly understand important concepts about OPC and its use in the industry.

Attendees will be able to connect any OPC server together, transfer data two-way to DCS/PLC, perform custom calculations directly on an OPC server and then talk to the DCS, decipher, troubleshoot and solve OPC problems.

Attendees will understand COM, DCOM, DA, HDA, UA, AE and all commonly used OPC concepts.

Attendees will have the skills and knowledge to develop new applications using OPC, save costs using modern OPC technology and implement new APC and primary control schemes faster and with lower costs.

Day 1:
History and Vision behind OPC technology
Basic Concepts of OPC
OPC Specifications
Benefits of OPC Solutions
Connection Parameters in OPC Servers
Configuration of OPC Clients

OPC Redundancy
OPC DA and HDA
OPC Client and Server Architecture
OPC Tunneling Technology
OPC Alarms and Events
Windows Security
OPC options and industry vendors
XML Overview
COM and DCOM
Troubleshooting DCOM Problems
Systematic Detailed Procedure for Correctly Setting DCOM Configuration
OPC Diagnostics
SCADA applications using OPC
OPC Alarms and Events
Server-Client-Server (SCS) OPC Applications
OPC UA (Unified Architecture)
Overview of connecting OPC clients to OPC servers