



## SCADA/HMI MOVICON™ TRAINING COURSE PROGRAM

The Movicon training program includes the following courses:

### Basic Training Course:

- 1 day course at Progea head offices or authorized center. On location at client offices to be arranged.
- **Requisites:** this training program does not require participant to be prepared in any specific programming skills but only those needed for using the Microsoft Windows OS as well as some basic knowledge of industrial automation.

### Intermediate Training Course:

- 2 day course at the Progea head offices or authorized center. On location at client offices to be arranged.
- **Requisites:** this training course requires the participant to have previously completed the Movicon Basic Training Course or have basic Movicon skills and know-how.

### Advance Training Course:

- 2 day course at the Progea head offices or authorized center. On location at client offices to be arranged.
- **Requisites:** this training course requires participant to have previously completed the Movicon intermediate course or have sufficient know-how and skills of the Movicon programming techniques, basic knowledge of the VBA or Visual Basic programming languages, sufficient knowledge of the OS and network systems.

Each training course consists of hands on activities which begin with learning new techniques and then putting them into practice. This will involve carrying out specific tasks to develop and launch example projects in simulation mode.



## **Location**

The training courses are held at the Progea offices in Modena, Milan, Balerna, Villingen or Appleton. Courses may also take place at other locations organized by Progea for transitory basic training course events. Training courses can also be organized on client location - on request – subject to agreed travel, food and lodging costs and fees of tutors.

## **Languages**

Training courses are held in the host country's language corresponding to the resident Progea offices:

Italy =	Italian or English
Germany =	German
Switzerland =	English or Italian
International (other countries) =	English

Webinar sessions are held English at international level.

## **Materials**

A video projector will be used to illustrate the Movicon techniques during the lesson. Participants will be given a CD ROM of the projects covered during the lesson with relative documentation at the end of the lesson. Participants should bring their own portable PC with Movicon pre-installed and configured appropriately to enable participant to follow the lesson on their own PC. This will allow participants to save and store the project themes covered for future reference.

## **Certificate of participation**

At the end of the course each participant will be awarded with a certificate of participation.

## **Lunch**

Courses held at the Progea head offices include a free coffee break and buffet lunch.



## Movicon Basic Training Course Program

### Basic concepts

1. General concepts:
  - Supported OS platform
  - Movicon installation
  - How to update Movicon and Drivers
  - The workspace: project resources in tree structures, Menus, toolbars, toolbox, project properties window
2. Creating a new project:
  - Different project engineering for different target devices: using the Wizard
  - Using objects and resources
  - Basic concepts of Project files and XML files structures
  - Historicals: choosing the right Data Base engine
3. Real Time Tag Database
  - I/O Drivers and physical addressing
  - Tag Definitions (Variables)
  - Tag Properties
  - System Tags
  - Cross Referencing
4. Strings
  - The String resource and working with Multi-language texts
5. Runtime
  - Runtime and Debug project simulation

### Graphics

1. Screens
  - Create a new screen
  - Screen properties
  - Configuring and using screens
  - Changing and navigating screen pages
  - Pop-up windows
2. Dynamic Animation
  - Inserting and configuring graphical objects
  - Drawing and symbol animations
  - Inserting and configuring symbols
  - Editing, customizing and saving symbol libraries

### Alarms and Historicals

1. Alarm Editor and Messages
  - Creating new Alarms
  - Alarm Properties
  - Alarm Help
  - Alarm Areas
2. Alarm Templates
  - Using String Tables
  - Alarm Bit
  - Nested Alarm Areas
3. Alarm Visualization: Alarm Window object
4. Historical Log Configuration
5. Alarm Historical Visualization: Log Window object



## **Recipe Management**

1. Creating new Recipe objects
2. Creating Recipe interface graphics
  - Recipe Screen
  - Recipe Manager Window
3. Recipe Commands
4. Simulations
5. Archive and database management concepts

## **Data-Loggers**

1. Creating Data-Logger objects, Data-Logger properties
  2. Recording Modalities: timed, on event, on change
  3. Wizard for creating Databases
  4. Data viewer objects for Data Loggers
  5. Simulations and examples
- Briefing on Reports (Report Designer and Embedded Reports)



## **Intermediate Training Course Level**

### **Advanced Graphics**

1. Power Template Symbols
2. Alias Management
3. Using screen parameters

### **Modular Design Engineering**

1. Modular Parent and Child project concepts

### **Analytic Funtionalities**

1. The Trend object: functions and properties
2. Creating new curve display pens in Trends
3. Associating Trends to Data Loggers
4. Data Analysis object for displaying analytical curves
5. ODBC database alternatives: recording data on .CSV files
6. Trends as Power Templates
7. Grid objects
8. Report Designer: introductory general concepts

### **Networking**

1. Network Server concepts
2. Projects in Client/Server architecture
3. Project Networking properties
4. Connecting and Sharing Tags in Network
5. Centralizing client projects in Server: child projects
6. Alarm Server and other Display objects connected to server
7. Web Client: introduction to the Movicon Web Client technology

### **Communication Drivers**

1. Communication Driver concepts
2. List of Drivers
3. Driver and Driver Station Setup
4. Dynamic or static addressing
5. Driver Debugging

### **OPC Connectivity**

1. OPC (OPC DA e OPC XML DA) concepts
2. OPC Server Projects: Server and Item connection settings
3. OPC Client Projects: OPC server connections and settings

### **Password and User Management**

1. Defining users and user privileges
2. User Properties, Log On and Log Off
3. Windows Domain user sharing
4. Blocking Desktop access
5. Windows Services
6. Creating new users in runtime
7. FDA CFR21 Part 11: Electronic Signatures and concepts
8. Audit Trail (Tracing)



## **Advance Training Course Level**

### **Advance Module 1: Client/Server Solutions**

This module requires participant as user to have good knowledge and skill in using the Movicon product's basic functionalities. Furthermore, participant must have adequate knowledge and skill in using the VBA language and OS network functions.

1. Movicon Networking Funtionalities
2. Client/Server data and variable sharing
3. Remote visualization of server alarms in client stations
4. Remote visualization of server Historical Log records in client stations
5. Remote visualization of Trends with Data-Loggers in client stations
6. VBA interface in RAS connections for remote access between server and client
7. VBA methods for managing TCP/IP network connections dynamically
8. Web Client solutions: concepts and implementation, customizing HTML pages for default
9. Redundancy: concepts and configurations
10. Web Report and Web Data View

### **Advance Module 2: VBA Programming**

This module requires participant as user to have good knowledge and skill in using the Movicon product's basic functionalities. Furthermore, participant must also possess knowledge and experience in programming languages and OS functions.

1. Introduction to the Movicon VBA language (Visual Basic for Applications)
2. Creating VBA script
3. Calling VBA scripts from Movicon objects
4. Automatic VBA script Run/Stop
5. Creating continous loops and managing events and errors
6. VBA interfacing: Movicon interface, Alarm interface, Symbols interface, Trend interface, ...
7. How to customize alarm management using the Alarm Interface with examples
8. VBA scripts within Movicon Templates.
9. Using ADO libraries for customizing database managements
10. VBA Driver Interfaces
11. Managing ActiveX, OCX or .Net assemblies in Movicon projects

### **Advance Module 3: Applications for Windows CE**

This module requires participant as user to have good knowledge and skill in using the Movicon product's basic functionalities. Further, participant must possess backend knowledge of the Windows CE OS.

1. Introduction to Movicon for Windows CE
2. Installation and introduction to MS ActiveSync and download-upload plug-ins
3. Movicon CE runtime installation in embedded devices
4. Graphical resolutions and restrictions in Windows CE
5. Differences between Win32 and WinCE
6. Historical concepts and memory use in Windows CE
7. Alarm and Historical Log management in Windows CE platforms
8. Managing Trends in Windows CE platforms
9. Creating and downloading an example project
10. Remote project debugger in Device