COURSE DESCRIPTION

**T314**

**System 800xA with AC 800M Basic Application Modifications**

**Course goal**
The goal of this course is to learn the modification of existing applications/projects using the Extended Automation System 800xA with AC 800M controllers. If more comprehensive engineering skills are needed, it is recommended to consider the course T315 “Engineering” instead.

**Main learning objectives**
Upon completion of this course the participants will be able to:
- Explain the System 800xA architecture and the function of the different components;
- Configure the AC 800M hardware and corresponding I/O’s;
- Describe the structure of application programs i.e. variables, libraries, programs, tasks;
- Modify the existing diagram using Diagram Editor;
- Setup the communication between controllers;
- Load the controller and work in online mode;
- Check the OPC connectivity at AC800M;
- Navigate in the system and create new objects/aspects;
- Modify graphic displays;
- Manage and configure alarm and events;
- Monitor trends and configure historical data collection;
- Import/export System 800xA data;
- Modify existing application programs by using Function Block Diagrams, Sequential Function Charts, Structured Text and Control Modules.

**Participant profile**
This training is targeted to system and application engineers, commissioning and maintenance personnel, service engineers who need have a foundation for maintenance and administration skills.

**Prerequisites**
Students shall know the fundamentals of working with Control Systems and have basic knowledge of Windows 8 and networking technologies.

**Topics**
- System 800xA architecture;
- Engineering Workplace/Plant Explorer;
- OPC connectivity;
- AC 800M hardware;
- Variables and data types;
- Function Block Diagram;
- Structured Text;
- Control Modules;
- Diagrams;
- Sequential Function Charts (SFC);
- Alarm and events;
- Graphic displays;
- Import and export.

**Course type**
This is an instructor led course with interactive classroom discussions and associated lab exercises. Approximately 50% of the course is hands-on lab activities.
### Duration
The duration is 5 days

### Course map

<table>
<thead>
<tr>
<th>Topics</th>
<th>DAY 1</th>
<th>DAY 2</th>
<th>DAY 3</th>
<th>DAY 4</th>
<th>DAY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Course overview;</td>
<td>AC 800M hardware;</td>
<td>Structured Text Task assignment and memory;</td>
<td>Sequential Function Charts (SFC);</td>
<td>Historian and trends;</td>
</tr>
<tr>
<td></td>
<td>System 800xA architecture;</td>
<td>Libraries;</td>
<td>Function block diagrams.</td>
<td>Communication;</td>
<td>Operator Workplace;</td>
</tr>
<tr>
<td></td>
<td>Operation;</td>
<td>Variables and data types;</td>
<td>Control Modules Diagrams.</td>
<td>Alarm and events;</td>
<td>Import and export.</td>
</tr>
<tr>
<td></td>
<td>Engineering Workplace/Plant Explorer;</td>
<td>Function block diagrams.</td>
<td></td>
<td>Graphic displays.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPC connectivity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Time   | 9:00 am – 6:00 pm | 9:00 am – 6:00 pm | 9:00 am – 6:00 pm | 9:00 am – 6:00 pm | 9:00 am – 6:00 pm |

Typical course layout (time or sequence may change)