# Distech Controls Training

## Advanced Applications Workshop - Course # 5501

### Introduction

The 5501 course has been developed to be a unique experience for controls integrators and project managers in that it has been created to be in a workshop-based format.  This format allows for participants to bring their own industry related issues, solutions and experiences regarding the programming of EC-*gfx*Program and EC-Net4 to the table, and to be able to share them with other participants.  At the same time, the agenda is well structured to provide coverage of both new and undervalued features as the platforms continue to evolve.  Detailed feature-sets and tips & tricks related to both LonWorks-based and BACnet-based controllers are covered in depth.  Much time is also spent on advanced concepts related to custom blocks, Smart-Vue, schedules, alarms, histories, PX pages and networks tuning tips, on top of detailed periods for question & answer and troubleshooting techniques.

### Information

Training workshop period:  5 days (8:00 AM to 5:00 PM)

Prerequisites:

- EC-Net$^{AX}$/EC-Net 4 Certification (#5001)
- A minimum of one year of pertinent experience and completed projects using EC-NetAX/4 platform
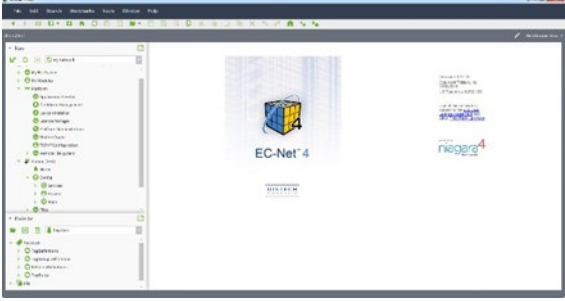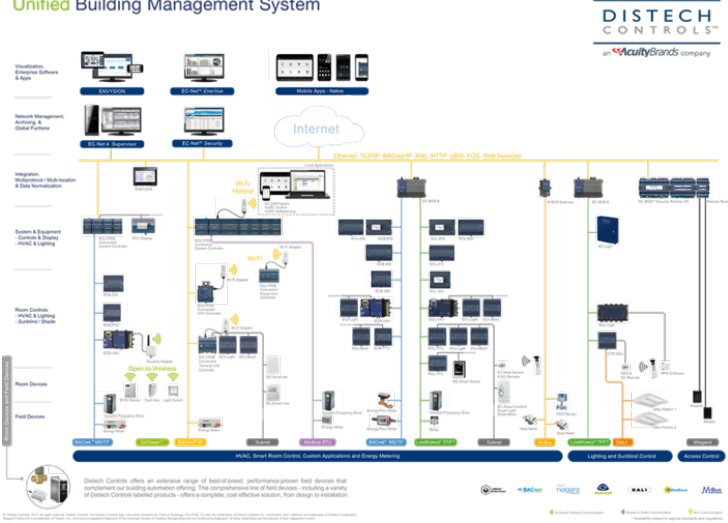- Distech Controls Applications & Controllers Certification (#6001)

### Audience

- Network / System integrators
- Project managers
- Energy management specialists
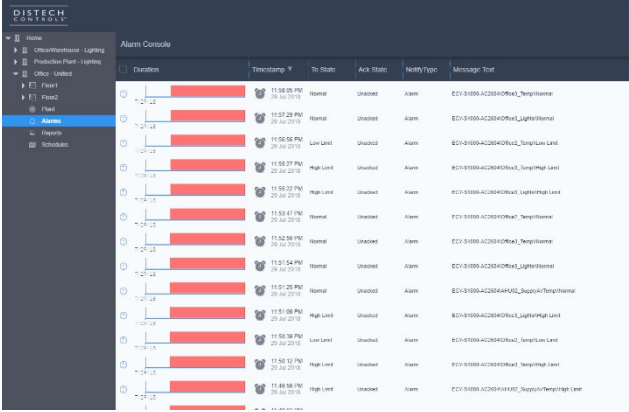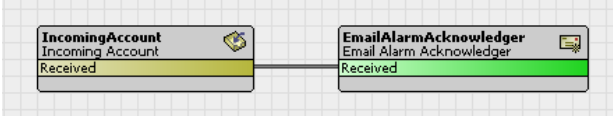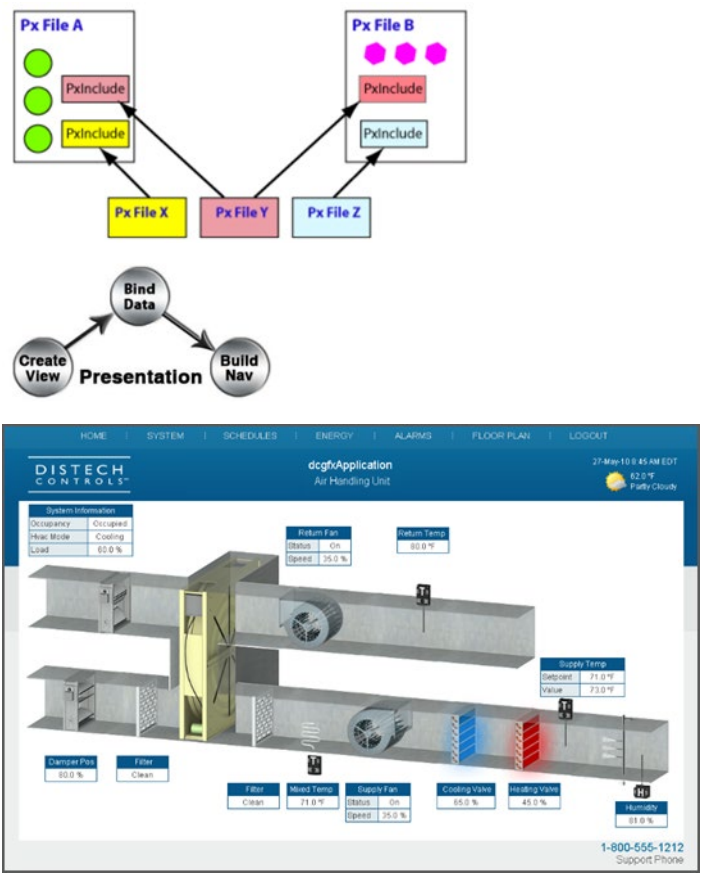- Application Engineers

### Objectives

Participants will be:

- Defining architecture of control systems
- Using Distech Controls Applications & Controllers on the EC-Net4 platform
- Experiencing EC-Net4 as a network management tool
- Integrating field buses
- Learning time saving features
- Troubleshooting and FAQ

## Course Outline

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|---|---|---|
| **Soft EC-BOS** | <ul><li>Networking</li><li>Licensing</li><li>Platform Daemon</li><li>Modules</li></ul> |  |
| **EC-BOS** | <ul><li>Platform and Administration</li><li>NDIO / NRIO modules</li><li>AX programming</li><li>Troubleshooting</li></ul> |  |
| **Network Architecture** | <ul><li>Network design</li><li>Router and firewall</li><li>Supervisor setup</li><li>Network options</li></ul> |  |
| **LON Network** | <ul><li>Building a database</li><li>Device properties</li><li>LonWorks Wizard Service</li><li>Controllers</li><li>Points</li><li>LON Utilities Manager</li><li>LON Bindings</li><li>Kit LON</li><li>Net Management</li><li>Upgrading</li><li>EC-BOS as a LON device</li></ul> | |

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| **BACnet Network** | • Distech Controls Palettes and features<br>• BACnet points<br>• Virtual points<br>• BACnet Export table<br>• IP vs Ethernet vs MS/TP |  |
| **N4 Integration** | • BACnet IP<br>• LON to BACnet IP/MSTP<br>• BACnet user config | |
| **N4 Reporting** | • Report service<br>• Report in Px page<br>• BQL grid and Component grid<br>• Exporting reports<br>• Emailing reports<br>• Audit Trail |  |
| **User Interface** | • User Interface<br>• ECY SSO<br>• Custom Palettes<br>• Custom Right click menu<br>• Custom Actions<br>• Bookmarks<br>• Lexicons<br>• Batch editor<br>• Dynamic/relative references<br>• Category service (access levels) |  |

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| **History and Alarming** | • History Extension<br>• History Service (grouping)<br>• Alarm Extension<br>• Console Recipient<br>• ECY Alarms / Histories to Supervisors |  |
| **Email Service** | • Email account<br>• Example<br>• DNS server<br>• ECY emails setup |  |
| **Px Pages** | • Engineering Optimization<br>• PX vs Hx vs HTML5<br>• IncludePx<br>• Relativize and Variable<br>• Widget properties<br>• PX Framework<br>• Distech Controls Libraries (dcImages)<br>• PET<br>• XpressENVYSION<br>• Multiple points Widgets<br>• Non-proxied points in graphics<br>• Graphic file formats<br>• Special functions |  |

| EC-gfxProgram | • New & Advanced features<br>• Standalone EC-gfxProgram connections<br>• Tunnelling<br>• 32 bit Controllers<br>• PID properties (dynamic tuning)<br>• Supported SNVT<br>• gfxApplications Library<br>• ECB<br>• ECL<br>• Options<br>• For Loops<br>• VPACC<br>• EC-Smart-Vue configuration<br>• Custom blocks<br>• For Loops blocks<br>• Conditional custom blocks<br>• BACnet Network Values (NV) & Services<br>• Schedule, Calendar & Time<br>• BACnet objects<br>• Type and Selection<br>• Priority levels<br>• Persistency<br>• Units and COV properties<br>• Alarm Event Notifier properties (B-AAC) |  |
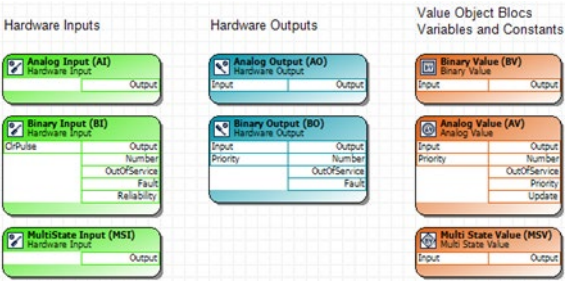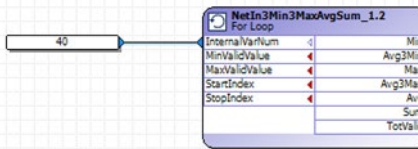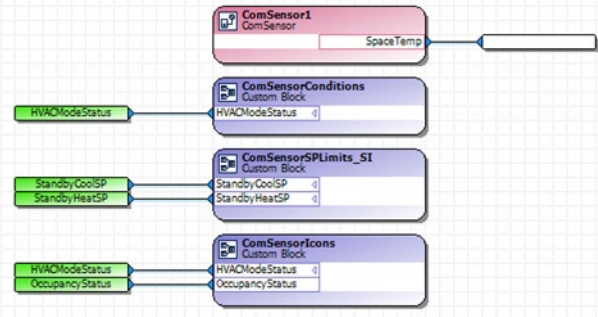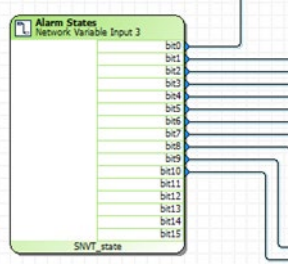
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