

## Training Course

Industrial Cyber Security 1 (IES-CS1)	
Objective	<p>In this training attendees will learn about the Ethernet security principles, as proposed by IEC-62443.</p> <p>Participants will master how to be hardening Moxa Devices and use secure protocols in order to keep their network secure from intrusion.</p>
Prerequisites	<p>Knowledge in networking is required, based on previous attendance of the “Layer 2 Networking” (IES-L2) and “Layer 3 Networking (IES-L3)” courses or equivalent experience in the field.</p>
Content	<p><b>Overview of Cybersecurity:</b></p> <ul style="list-style-type: none"> <li>- <b>IEC-62443</b> <ul style="list-style-type: none"> <li>- Structure of the IEC-62443 series</li> <li>- Security Levels</li> <li>- Foundational Requirements</li> </ul> </li> <li>- <b>Encryption Methods</b> <ul style="list-style-type: none"> <li>- Handshaking</li> <li>- Certificates</li> <li>- Keys</li> </ul> </li> <li>- <b>Secure vs Insecure protocols</b> <ul style="list-style-type: none"> <li>- Telnet x SSH</li> <li>- FTP x SCP</li> <li>- HTTP x HTTPS</li> <li>- SNMP V1/V2C x SNMP V3</li> </ul> </li> </ul> <p><b>Device Security:</b></p> <ul style="list-style-type: none"> <li>- <b>Identification &amp; authentication control</b> <ul style="list-style-type: none"> <li>- User account management</li> <li>- Password policy</li> <li>- Login lockout</li> </ul> </li> <li>- <b>Use Control</b> <ul style="list-style-type: none"> <li>- Event Log</li> <li>- Syslog Server</li> </ul> </li> <li>- <b>System Integrity</b> <ul style="list-style-type: none"> <li>- System File Encryption</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>- Secure Boot</li> <li>- <b>Data Confidentiality</b> <ul style="list-style-type: none"> <li>- SSL certification management</li> </ul> </li> <li>- <b>Restricted data flow</b> <ul style="list-style-type: none"> <li>- VLAN</li> <li>- 802.1X Radius or TACACS</li> <li>- Access control list</li> </ul> </li> <li>- <b>Timely response to events</b> <ul style="list-style-type: none"> <li>- System files export</li> <li>- Syslog log server setting</li> </ul> </li> <li>- <b>Resource Availability</b> <ul style="list-style-type: none"> <li>- Rate limit to protect CPU loading</li> <li>- Rate limit by QoS</li> </ul> </li> <li>- <b>Hands-On</b></li> </ul> <p><b>Security Mechanism:</b></p> <ul style="list-style-type: none"> <li>- DMZ</li> <li>- Firewall</li> <li>- DoS</li> <li>- Hands-On</li> </ul> <p><b>VPN:</b></p> <ul style="list-style-type: none"> <li>- IpSec</li> <li>- L2tp</li> <li>- OpenVPN</li> <li>- Hands-On</li> </ul> <p><b>Using MxStudio for Security:</b></p> <ul style="list-style-type: none"> <li>- Concept</li> <li>- MxView Security View</li> <li>- MxConfig Security Wizard</li> <li>- Hands-on</li> </ul>
Duration	1.5 Days
Certification	Industrial Cyber Security 1 (IES-CS1)