



Session Descriptions

Session ID	Session Title	Session Description
D1	IEI Design Principles	Compare your own thoughts and ideas to our high-level best practices for designing industrial network infrastructures. This session looks at segmentation, security, redundancy, physical media and other critical network attributes and is designed to spark your curiosity for topics that will be covered throughout the week.
D2	Industrial Networking Best Practices: Real-World Suggestions for Your Network	Translate high-level best practices into practical suggestions for implementing your industrial Ethernet infrastructure. Step-by-step, we'll guide you through the technology and resources you may not even know is within your reach. Then, you'll learn about the most common pitfalls and how to avoid them. Plus, you'll leave the session knowing just how to plan for the future of your network.
D3	Standardization Trends within Industrie 4.0 or IIoT	On the one hand side is the high-tech strategy of the German federal government with the aim of "intelligent factory" (Smart Factory), on the other hand side there is the link of clearly identifiable objects - not only from humans but also from things - the Internet of Things.
D4	Transition from the Automation Pyramid to Industrie 4.0	With Industry, we expect the classical automation pyramid to progress in an automation pillar. On the field level, we will see a massively increasing amount of sensors that need to be connected, while at the same time the PLCs will move into the cloud. This sessions will detail out the changes we expect in typical automation scenarios under Industry 4.0 and how Belden Products and Technologies can be used to face the challenges arising from that.
D5	Upgrade Field Bus Systems to Industrial Ethernet Solutions	The increasing extent of interconnection within all areas of, production, logistics, etc. is calling for much higher capabilities especially in the field. In the medium turn data volumes of 1, 10 Gbit/s or more will be needed to be transmitted reliably even from and to end devices as the current considerations concerning IIOT are showing.
D6	Selecting Copper and Fiber Cables	While the Ethernet switches and routers get a lot of attention, you need to get the cables & connectors right to get the very best, trouble-free performance from your networks. In this session, learn to properly specify fiber & copper cables, given different industrial environments or verticals. Discover installation best practices to ensure your industrial application performs flawlessly.
D7	Industrial Ethernet – know your Limitations. PoE Considerations for your Cables and Patch Cords	Power over Ethernet (PoE) compatibility is becoming ubiquitous as more and more devices are powered over data cables. Doing this saves installation costs and time, yet, despite ongoing installs in the field, the technology is not fully understood in terms of challenges. This session will address questions like: what performance does my cable need to support PoE devices, what are the Ethernet channel requirements, what are the heating effects over bundled cables, and many more. A hands-on lab will give the opportunity to directly put into practice the concepts discussed.
D8	Top Ten Tips to Avoid Tech Support	Avoid all that frustrating downtime, listening to bad music and waiting on technical support. Let Belden's technical team give you the inside scoop on how to stay off the phone and on track. There are decades of experience behind this session. You'll get answers to many frequently asked questions – from multicast and IGMP to Duplex Mismatch and where to find engineering drawings.
D9	Remote Access Solutions	Interested in learning the pros and cons of the many remote access solutions available on the market? In this session, you will explore different technologies including phone modems, cellular modems, cloud-based access, VPN and more. We will compare and contrast where these technologies best fit within certain applications and industries and demonstrate the basics to set up a robust solution.



Session ID	Session Title	Session Description
N1	Live Demo; Setting up a Network	A highly effective session where you will witness an Industrial Ethernet Network being built from the ground up. This session will give you an unparalleled experience in witnessing the rapid deployment of the different concepts and technologies that you have learnt from this entire seminar in a 'real' scenario.
N2	Cool Things Your Switch Can Do	HOT TOPIC: Become your facility's network superhero. Valuable, time-saving benefits are hiding in plain sight inside your Hirschmann switches. We'll give you the keys to unlock all the secret functions for better network performance and productivity. Knowing how to tap into this treasure will make you the go-to expert of your operation.
N3	Network Redundancy	Improve your network availability. New redundancy protocols give you more options than ever before. Learn the design and application details of these modern, cutting edge protocols so you can make the best choice for your network. Bonus: you'll see a live demonstration of a zero-packet-loss redundancy method.
N4	Lab Applying Redundant Communications	Gain hands on experience applying several network redundancy methods using Hirschmann™ products.
N5	Network Isolation & Segmentation	A network's performance, security and ease of maintenance can be dramatically improved by isolating traffic. This session will look at the reasons why you would want to isolate network segments, and various ways to deliver this isolation including the use of VLANs, routers / Layer 3 switches and firewalls.
N6	Lab Applying VLAN to Segment Networks	In this lab you use a layer 2 Hirschmann™ switch to set up separate logical networks (VLANs).
N7	Lab Routing with Layer 3 Switch Part 1	Layer 3 switches are an excellent way to segment your network. Learn how easy they are to configure and implement in this hands on lab. Part 1: Static Routing
N8	Lab Routing with Layer 3 Switch Part 2	Layer 3 switches are an excellent way to segment your network. Learn how easy they are to configure and implement in this hands on lab. Part 2: Configuring Dynamic Routing Protocols
N9	Network Management	SNMP, OPC, Web Browser, Hyperterminal... are all methods to interface with your network devices, and each has its place, but what combination of these is right for your application? As your network grows and becomes increasingly important, a solid network management strategy is a must. Discover how to select & apply the best network management approaches for your own network plan.
N10	Lab Network Management with IHV	In this hands on lab, learn how easy it is to implement a network management system, and also discover how powerful a tool this can be.



Session Descriptions *(continued)*

Session ID	Session Title	Session Description
S1	Implementing Network Security	Need to add security, but not sure about what you should do? Consistent with government & standards organizations' recommendations, this session will help you take practical steps including a risk assessment and plan for layered security. In addition, we'll share high-level guidelines for designing and selecting components for network security, including perimeter, zone, and remote access.
S2	Lab Network Security	You'll gain hands-on experience applying and testing some of the most popular security products & features.
S3	Securing your Infrastructure Equipment	Expand the benefits of the Hirschmann managed switches and routers you already have installed. This practical session leads you on a discovery adventure, revealing all the hidden, helpful secrets to improving your entire network security plan. The real value isn't just unearthing these gems, but in understanding how you can apply them – NOW.
S4	Lab Deep Packet Inspection with Tofino	This lab will give you an introduction how to protect to your Industrial Application and how to keep your PLCs and other automation devices safe from others who want to control them. In the hands on part you'll learn how Deep Packet Inspection provides easy & effective control over who can do what to your automation equipment.
S5	Lab Secure Remote Access	In this lab you'll learn, how to deploy Remote Access Securely, Easily and Cost-Effectively with techniques which require no assistance from corporate IT.
CS1	How to Harden and Secure Essential Windows Systems	What if you still have old XP, Win98 or Windows Server 2003 systems that are out of support and remain vulnerable to a raft of possible exploits – but they're still useful, required and running applications and services it would be too disruptive to alter? And further, even if you upgrade, the Windows OS continues to be a source of many exploitable vulnerabilities. This session explores hardening techniques you can do today to significantly increase your security and improve reliability and availability of those systems against disruption. Attendees will receive an Industrial Hardening Guide for Windows/Windows Embedded Systems.
CS2	Cybersecurity Hot Spots within ICS Networks, Endpoints and Industrial Control Systems	Cybersecurity "Hot Spots" really exist in industrial environments, and this session examines the most common weaknesses that you'll encounter within industrial networks, endpoints, and industrial control systems. You'll get expert, practical guidance, based on true field experience, for what can be done and how to improve your cybersecurity posture with the least amount of change and delivering the highest impact.
W1	Mainstream Industrial Wireless Design	The newest Industrial Wireless standards and products provide significantly more reliable, robust, and secure wireless communication, and are a lot easier to deploy, enabling wireless LAN use to go mainstream for a wide variety of industrial applications. You'll learn the high-level steps to design, select & deploy today's newest industrial wireless systems, along with our best guidelines for success.
W2	Lab Intro Wireless Ethernet	It's been said that the best way to learn wireless is to do wireless...here's your chance to do just that! Hands on experience with our new Hirschmann OpenBAT wireless devices.

Legend: Color Scheme

D = Design	N = Networking Industrial Ethernet, Connectivity and Cable	S = Security	CS = Cyber Security	W = Wireless
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