8:00 AM - 9:00 AM

The New Rules, Regulations and Processes for Keeping Your Tower Infrastructure in Compliance - Silver Scribe 1st Place Winner

Cory Moffat, *Crenshaw Communications Consulting, LLC.*
Room: 350 D

In the last year, both the FCC and the FAA have adopted new rules and regulations regarding tower compliance. To aid in the deployment of new tower infrastructure, the FCC has given additional guidance and timelines for reviewing projects which consulting tribes and SHPOs must adhere to. The new regulations are proving favorable for many in the critical infrastructure industry.

This session will discuss the key changes and how those changes impact your business operations, share compliance best practices and help you understand the processes and steps you need to take to ensure compliance while leveraging the new regulations to help keep your project on schedule

Objectives of this session:

- Discuss new regulations
- Discuss action plans and steps for implementation
- Create a long term strategy for tower compliance

Industry Sector: Oil & Gas, Pipeline, Electric Utility, Waste Water
Category: FCC & Regulatory
Intended Audience: Executive/Director, Manager, Field Tech, Entry Level

Oil & Gas Digital Transformation: Leveraging New Choices for Protected Spectrum

Louis Lambert, *Redline Communications*
Room: 350 E

The Oil & Gas industry is engaged in its most significant transformation in decades. At the core is the requirement for a new, secure, multi-service network delivering industrial-grade, always-on, network access for people and machines on the move. To build these new networks, Oil & Gas companies require transformative technology and protected spectrum. This session covers how the digital transformation is enabled with access to Private Industrial LTE technology and associated spectrum.

Objectives of this session:

- Present the unprecedented technology and spectrum access now available to Oil & Gas companies in the USA and abroad.
- Review how this technology and spectrum access plays a strategic role in the digital transformation.
- Review how the shared spectrum model may impact the global market.

Industry Sector: Oil & Gas
Category: Networks/Communications Infrastructures, IoT
Intended Audience: Executive/Director, Manager, Field Tech

A Practical Overview of Private LTE Technology and Its Impending Impact on Oil & Gas

Derek Ellingsworth, *GE MDS*

Room: 350 F

A Practical Overview of Private LTE Technology and Its Impending Impact on Oil & Gas. We'll start the discussion by reviewing why one should consider private LTE. The features offered by LTE technology and the benefits of a private system will be brought to light. We'll discuss considerations that should be addressed when determining if private LTE is right for Oil & Gas. We'll outline a typical private LTE system rollout. We'll include network topology, relevant cost considerations, and performance metrics calculations. Finally, we'll conclude with the current status of LTE technology and how it's been shaping the telecommunications industry. Our goal is to build confidence in this proven technology and encourage them to explore the option of forgoing the iterative, and proprietary, migration options for an evolutionary standards-based technology.

Objectives of this session:

- Highlight the applicable benefits and features offered by private LTE while also providing insight into the considerations that go into implementing a private LTE network
- Outline what a typical private LTE network rollout would look like from conception to implementation. This includes network topology, relevant costs, and general performance calculations.
- Discuss the LTE trend in the telecommunications industry. Where the LTE technology currently stands and how LTE is shaping the future of communications with focus on the impact it can have on the Oil & Gas Industry.

Industry Sector: Oil & Gas
Category: Emerging Technologies
Intended Audience: Executive/Director, Manager, Field Tech

9:00 AM – 10:00 AM

Vendor Shoot Out - Solutions for the Emerging Digital Oil Field Technologies

Moderated by: JL Betts, *ENTELEC Board Member*
Room: Exhibit Hall B3 Café

Come join us as vendors explore current topics relevant to the industry. This will be a lively discussion and audience questions and participation are welcome.

With new technologies becoming more prevalent in Oil and Gas processes that give companies promise to do "More with Less", meaning utilizing emerging technologies such as IIoT, Cloud Based Services, Edge Computing, as well as enhanced Public and Private based wireless infrastructures that increase efficiency, security, scalability and robustness, all while giving real-time data resolution. Embracing these new methodologies may allow companies to look at SCADA in a whole new way.

This Vendor Shoot Out will talk about Private vs Public Networks, the advantages of Traditional SCADA Networks vs Cloud based systems, edge computing, as well as offer the audience the chance to give input on where they see emerging technologies fitting into their company ecosystem.

10:00 AM - 12:00 PM

Unlicensed Radio Network Planning (URNP) Training by End 2 End Technologies

Ronee Deguzman; Cody Racette, *End 2 End Technologies*
Room: 352 D

Technical Sessions Sponsored by: LOCKARD & WHITE
Telecommunications Engineers

Unlicensed RF radio manufacturers claim robust co-location and frequency re-use features in their radios operating on the same band but very often these deployments end up performing poorly due to customers ending up not enabling or implementing these provided features due to lack of understanding.

With an expanded portfolio of radio manufacturers, E2E has in-depth experience with implementing unlicensed industrial radios with maximum frequency re-use. We will share available manufacturer features and best practices with the class participants.

Objectives of this session:

- Field implementation of manufacturer suggested co-location/co-operation features
- Frequency assignment
- Field tools

Category: Field Area Networks

Intended Audience: Any end users that are involved in deploying or troubleshooting industrial unlicensed radio networks.

10:15 AM - 11:00 AM
Addressing Cyber Security Threats Associated with Smartphones, Tablet PCs, Connected Products, IoT/IIOT Devices, and PCs.

Rex M. Lee, *My Smart Privacy*

Room: Exhibit Hall B3 Technical Theatre

Learn how to address privacy, cyber security, and safety threats associated with smartphones, tablet PCs, connected products, IoT/IIoT devices, and PCs supported by the android OS, Apple iOS, and Microsoft Windows OS.

• Lean how malicious preinstalled and third-party apps enable content developers from around the world, including China and Russia, to monitor, track, and data mine the app user for financial gain posing privacy and cyber security threats to the app user.

• Lean how predatory apps can launch DDoS and Man in the Middle attacks on networks.

• Lean best practices and policies associated with smartphones, tablet PCs, connected products, IoT/IIOT devices, PCs, and B.Y.O.D. programs.Objectives of this session:

- trade-offs and top system considerations
- network and wireless questions
- IIoT

11:00 AM - 12:00 PM
Top CyberSecurity Considerations for Oil Field IoT

Brent McAdams, *OleumTech Corporation*

Room: 350 E

In this presentation, we will walk through trade-offs and top system considerations as well as network and wireless questions you should ask about the IoT equipment that you are deploying and what you can do to ensure you minimize the risk associated with taking advantage of the considerable business advantages that can be had using the IoT offerings that are available now.

Technical Sessions Sponsored by: LOCKARD & WHITE Telecommunications Engineers

In today's Oil Field, the transition from traditional automation to the Internet of Things (IoT) is here. While CyberSecurity is not a new consideration, the shift to more and more connected devices, and connecting field (OT) devices to a wider range of networks continues to push the importance. A number of recent highly publicized CyberSecurity events have highlighted the relevance in our industry. In this paper and presentation, we will walk through trade-offs and top system considerations as well as network and wireless questions you should ask about the IoT equipment that you are deploying and what you can do to ensure you minimize the risk associated with taking advantage of the considerable business advantages that can be had using the IoT offerings that are available now.

Objectives of this session:

- trade-offs and top system considerations
- network and wireless questions
- IIoT

Industry Sector: Oil & Gas, Pipeline

Category: Cyber Security/Physical Security, System Architecture for Industrial Control Systems, Networks/Communications Infrastructures, Emerging Technologies, IoT

Intended Audience: Executive/Director, Manager, Field Tech, Entry

Practical Network Management for the Oil Field

Craig Tedrow, *GE MDS*

Room: 350 D

Today's industrial wireless networks carry SCADA, video, badge access, work reports, and dispatch data that is used by a wide variety of people and systems to drive production and maintain critical systems. These wireless networks need to deliver reliable and secure performance every day. Network management software is the key tool for monitoring, measuring, configuring, and securing these critical networks. This session will provide practical examples using network management software to monitor, manage, and troubleshoot wireless networks.

Objectives of this session:

- Establish understanding of network management systems, how they work, what information they provide, and what overhead they place on the network
- Demonstrate practical, real-world examples of troubleshooting networks and optimizing performance
- Demonstrate how deployment of large scale networks can be facilitated with network management software and how cyber security controls can be tied into the existing security infrastructure

Industry Sector: Electric Utility

Category: Networks/Communications Infrastructures

Intended Audience: Manager

Wireless Communications for Intrinsically Safe Environments

Moderator Steve Parker, *Tessco*

Panelists Include: James Crowder, *Mark iii Systems*; Al Rivero, *Rajant*; Mike McMahaon, *Getac* and Kevin Jennings, *Alcatel Lucent*

Room: 350 F

Technical Sessions Sponsored by: LOCKARD & WHITE Telecommunications Engineers

2019 ENTELEC Education Schedule
Thursday, April 25, 2019

This will be a discussion around the challenges and some solutions for those challenges pertaining to connectivity in designated hazardous environments. Specifically including oil and gas extraction, petrochemical, and refining. Attendees will learn about how some of the companies in their industry are currently designing and deploying wireless communications in areas where safety is a requirement.
Industry Sector: Oil & Gas, Pipeline, Electric Utility, Waste Water, Railroad, Mining
Category: Networks/Communications Infrastructures
Intended Audience: Executive/Director, Manager, Field Tech

12:00 PM - 1:00 PM
Regulatory Panel Discussion
Moderated by Heather Becker, *ENTELEC Board Member*
Room: Exhibit Hall B3 Technical Theatre
Come listen to Regulatory experts explore current topics relevant to the industry. This will be a lively discussion and audience questions and participation are welcome.

Technical Sessions Sponsored by: