



# UTC TELECOM & TECHNOLOGY

VIRTUAL EVENT

AUG 18-SEPT 4, 2020

## Technology Choices: How and Where Emerging Technologies Fit in Your Communications Planning

Neil Horden; Federal Engineering, Inc. | Sept 1, 3:00 PM

**THE ANCHOR FOR UTILITY EDUCATION & TRAINING**

# Cellular Broadband Networks



## A Little Background

# LMR vs. LTE

- Mobile communications and LMR grew up together
  - Technology
  - Operational
  - Products
- LTE developed from the commercial/consumer cellular world
  - Different requirements
  - Different solutions

# Cellular LTE Broadband Networks \ Enhanced PTTToC and MCPTT

- Provides the next evolutionary step
- LTE Technology and Systems evolved for critical uses
- Features and Functions
- Coverage
- Reliability
- Products

# Utility Communication System Evolution

- LTE PTTToC provides the next evolutionary step
  - PSBN Paralleled with LMR (Now)
  - PSBN Partnered with LMR (Soon)
  - PSBN Replacing LMR (Future?)
- Technology Transitions / Not a Switch Flip
  - Coexistence will be the norm
    - Coexistence due to technology readiness
    - Coexistence due to transition timing
    - Coexistence due to interoperability needs



## LTE Paralleled with LMR

- LMR carrying today's voice traffic
- LTE carrying supplemental data
  - Extension of current mobile data applications
  - Potential for improved performance

## LTE Partnered with LMR

- Selective voice services transition to LTE
  - Telephone like voice services
  - Non-Mission Critical PTT
  - Administrative
  - Noncritical operations
- New applications

# LTE Replacing LMR? ? ?

- MC-PTT
- Coverage Enhancements
- Direct / Off-Network Mode
- Specially Products

# Key issues and Considerations

- Your Operation / Your Needs
  - Technology
  - Products
  - Policy
  - Budget



# Key issues; Technology

- Coverage
  - Overall
  - Targeted
- Features
  - MC-PTT
  - Direct Mode
- Interfaces

# Key issues; Products

- Ruggedized
- Specialized Functions
- Specialized Form Factors

# Key issues; Policy

- Shared Resource
  - Service Offering
  - SLAs
- Communications Interoperability
  - Content ownership and control

# Key issues; Budget

- Paralleled Networks
  - Little to no cost savings
  - Higher costs during early stages
- Shift from CapEx to OpEx
  - Change in budget process
  - Can be a shock to ongoing budget

# How to Be Ready: Planning!

- Your Network
- Your Operating Area
- Your Operation

# How to Be Ready: Planning!

- Your Network
  - One size does not fit all
- Your Operating Area
  - Coverage requirements
- Your Operation
  - Type of Utility
  - Specific Requirements

Planning for the right fit



# The Big Issue; Budgets



***Or Rather; Budget Discussions***

# Planning and Budgeting

- Evaluate your current budget and funding plans
- Look for opportunities to align future budgets and funding to anticipated needs
  - Capital and Operational
- Set reasonable expectations
  - Don't assume LTE will supplant LMR in the short term
  - "Paralleled" and "Partnered" solutions require support of both networks
  - Don't assume LTE will reduce costs



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Discussion Q&A

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# Thank You!!

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