NDACo Conference

NORTH Dakota | Information Technology

Be Legendary.

SIRN History

- 2011 Exploratory study focused on land mobile radio interoperability
- 2015 Legislature authorizes feasibility study
- 2016 Televate study conducted; recommendations provided
- 2017 Legislature authorizes and Governor signs into law- execution of SIRN 20/20
- 2017 SIRN 20/20 program initiated
- 2018 Requests for proposal
- 2019 January- Contract awarded to Motorola
- 2019 April- Legislature authorizes and Governor signs SIRN project funding into law
- 2019 May- Project kick off
- 2020 December- Backhaul and 10 PSAPs cutover
- 2021 December- 7 additional PSAPs cutover
- 2022 November- 5 additional PSAPs cutover along with approx. 65 sites completed
- 2023 & 2024 Coverage buildout continued

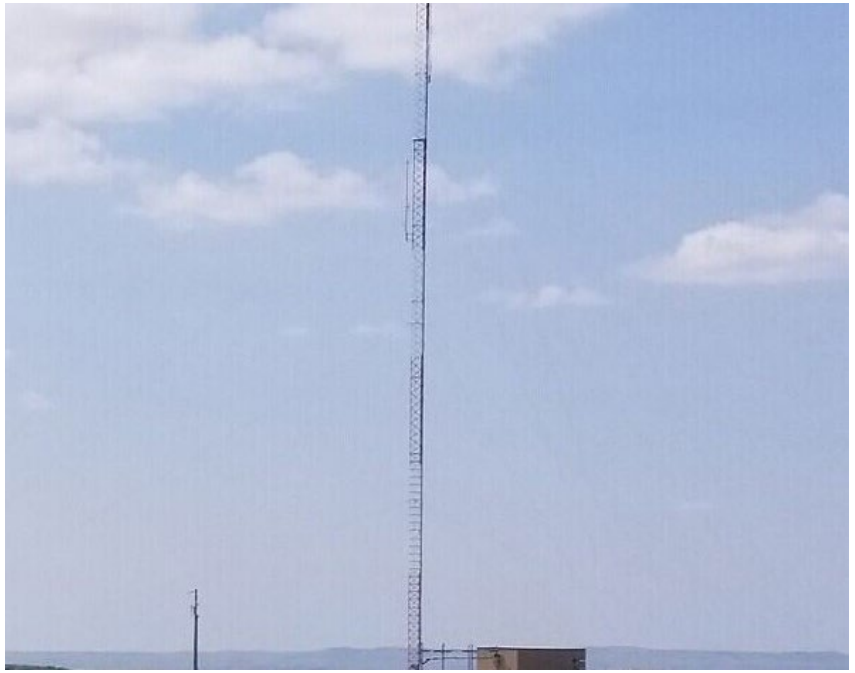
What Is The Goal?

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

- Shared Infrastructure Utilized by All Public Safety Users
- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System

- Guaranteed Coverage
  - 95% Mobile Coverage / 95% Reliability
  - 85% Portable Coverage / 95% Reliability
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years

Current SIRN Projects

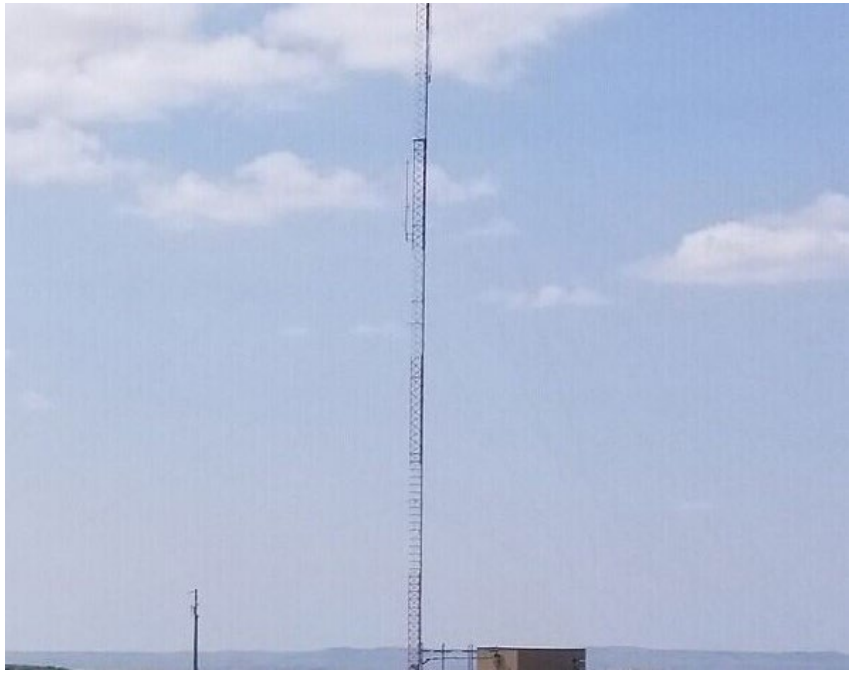


- Tower site construction and connectivity
- Dickinson Simulcast redundant links
- LE Encryption testing & expansion
- Radio Management implementation
- NDIT Staffing Plan
  - Jared Lemieux – SIRN Program Administrator
- Operational Budget development
- Transition pre-work w/ PSAPs
- Cirrus Central implementation
- NDNG & NDDHHS Console installations
- Tower lease bids (DN Solicitation #112-2502, 8/19/ 2024)

NORTH DAKOTA
STATEWIDE
INTEROPERABLE
RADIO NETWORK

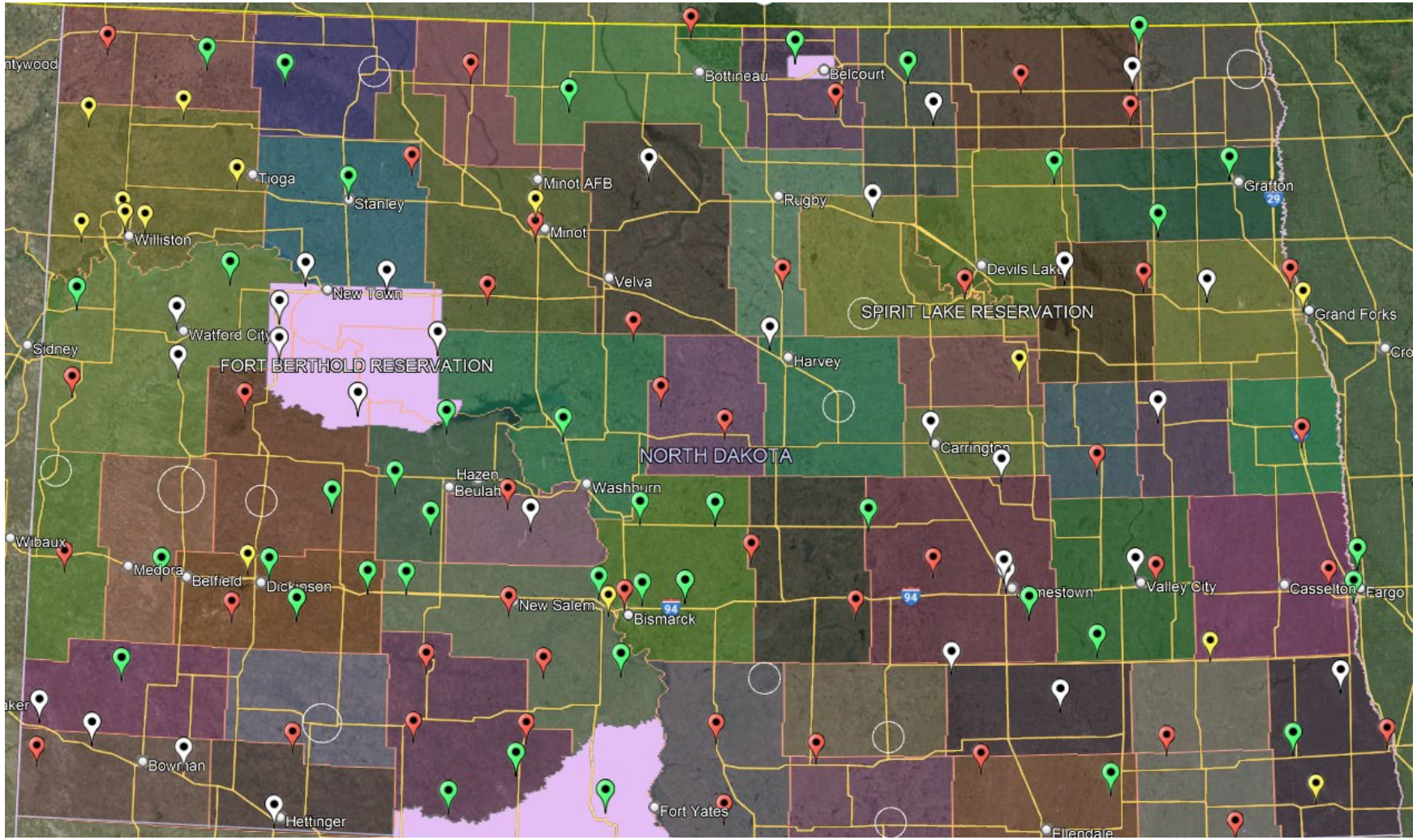
Current SIRN Challenges

- Supply chain
- Available workforce
- Staffing
  - Growth from 45 to 140 tower sites, 2 redundant, sync'd cores
    - Preventative maintenance and emergency response
  - Open records requests
  - System administration & trouble shooting
- Operational budget development
  - Licensing, connectivity, preventative maintenance, vendor contracts, staffing, emergency repairs, training, equipment, vehicles, spare equipment, utilities
- Easements & ROW
- Tower lease bid construction timelines
- Unknowns – environmental concerns, inflationary increases



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

Project Status – Towers



33 Sites with active users
39 Sites complete and available
41 Sites completed/under construction in 2024

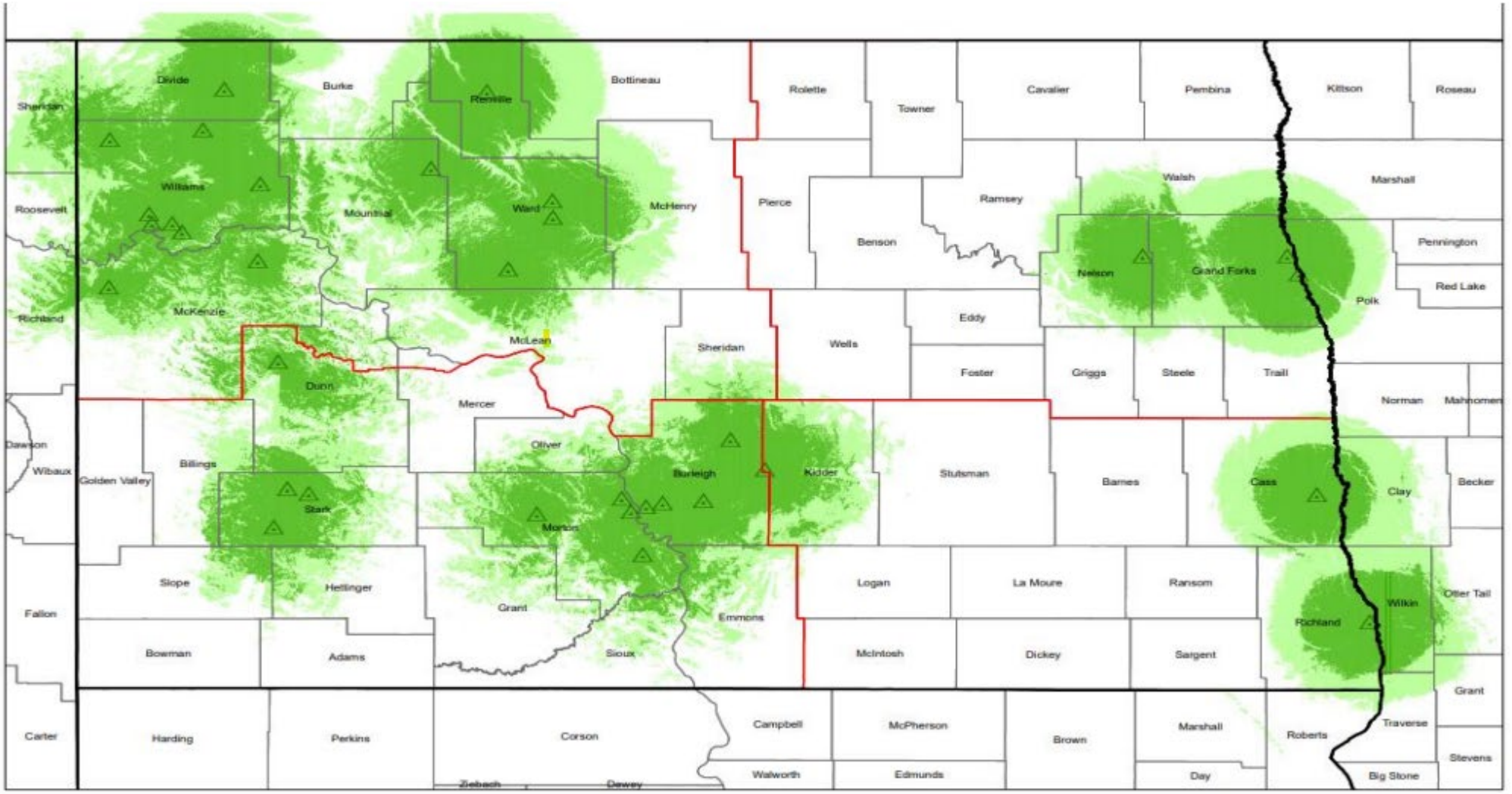
113 Sites in progress

Lease negotiations = (5)

Bid towers and MHA sites remaining

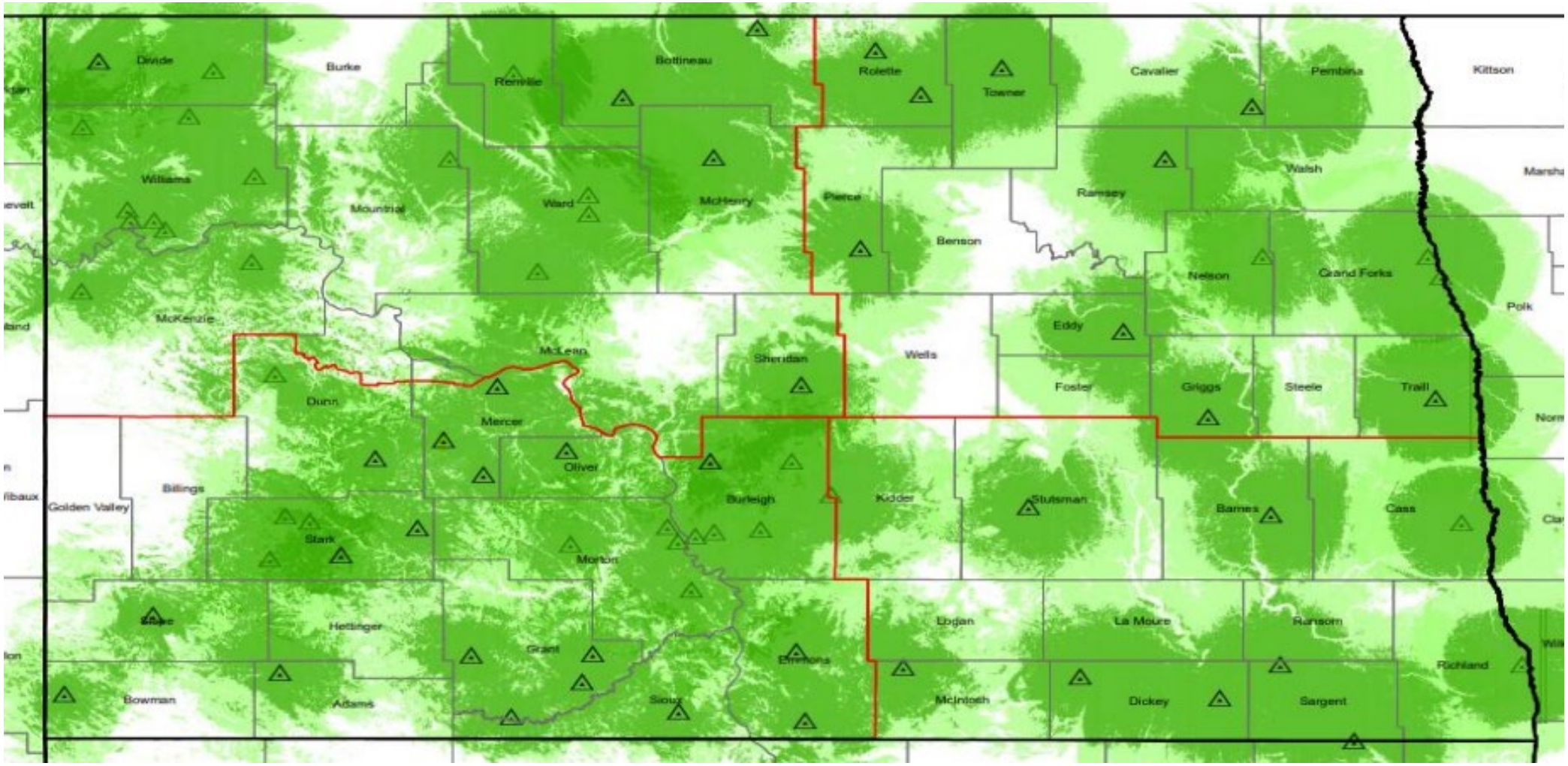
Project Status – Active Sites

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK



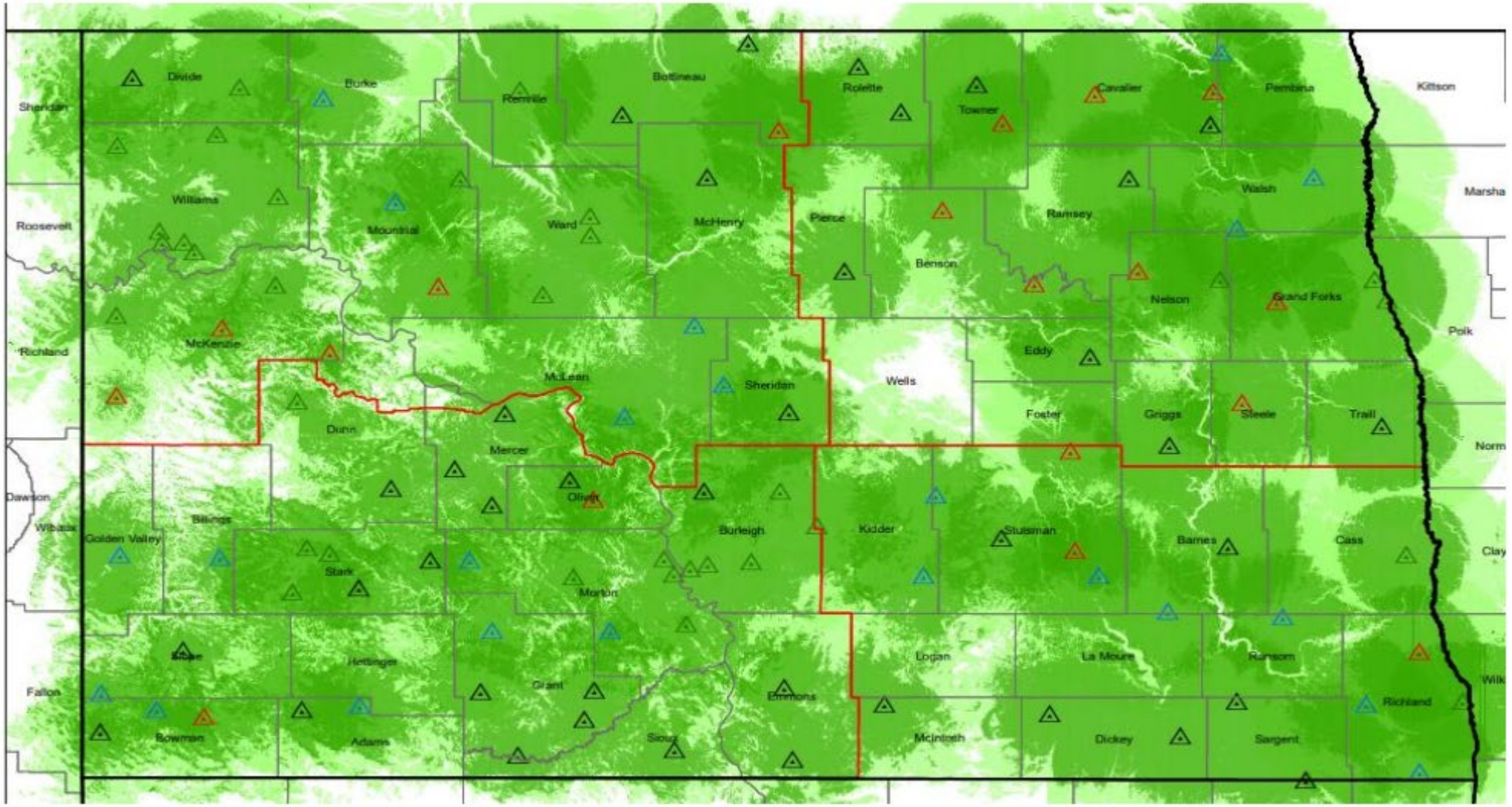
Project Status – Complete Sites

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK



Project Status – EOY 2024 Target

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

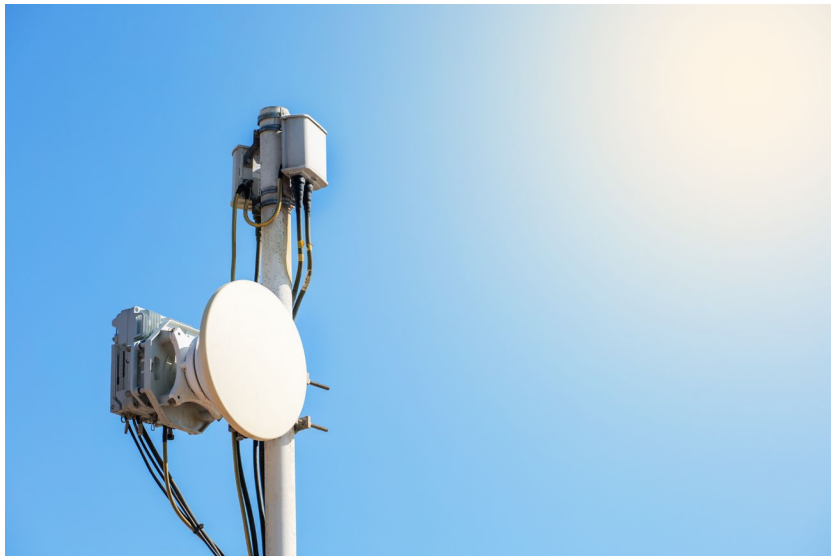


Radio Reimbursement Update

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

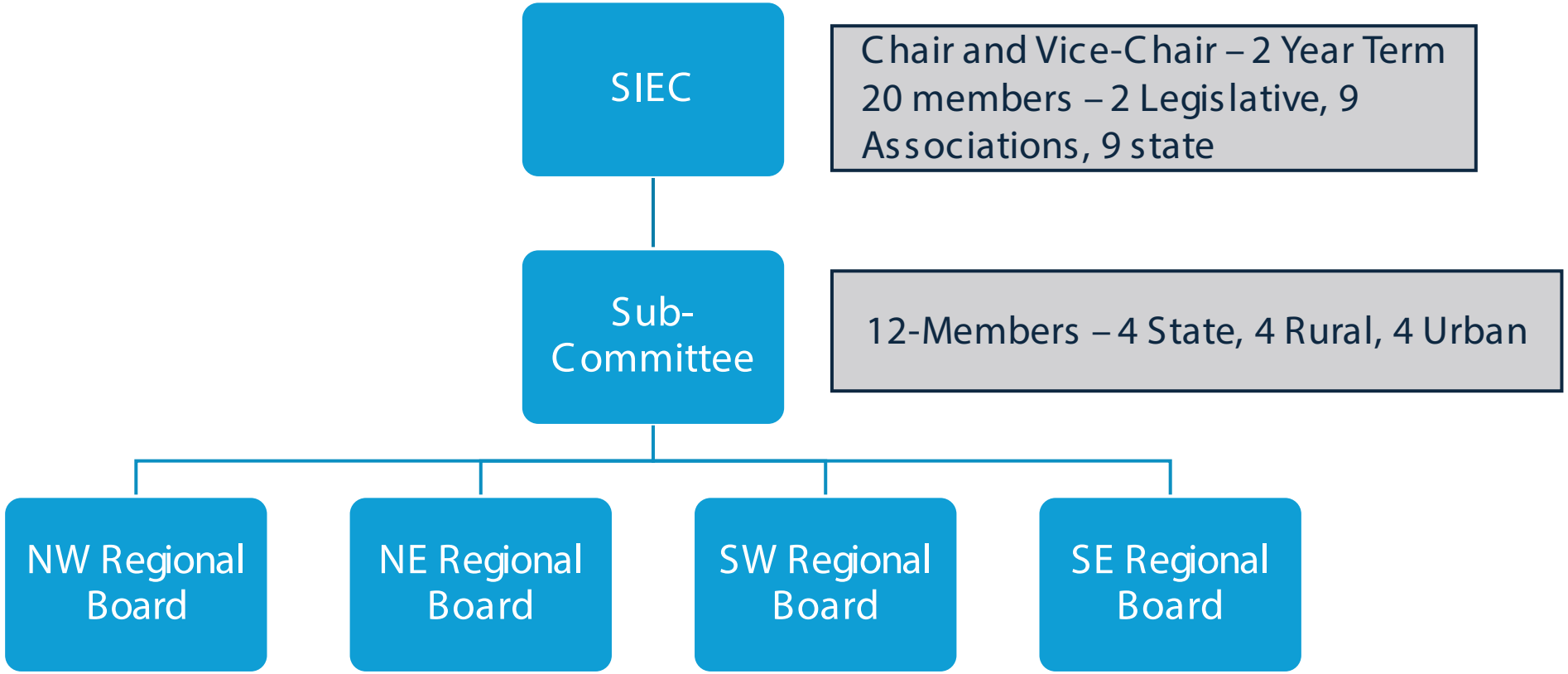
Radios must be ordered by March 31, 2025, to be eligible for reimbursement.

Radio Reimbursement (as of 10/16/2024)
9299 Radios Reimbursed
$13,737,251.95 Expended



Current Governance - Structure

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK



Regional Boards = Local Representation

- Align with Emergency Management Regions (NDCC 57-40.6-10)

North Dakota Century Code 37-17.3-02.2

SIRN Staffing

Public Safety Team

- 29 authorized positions
  - SIRN - Statewide
  - Vesta - PSAPs
  - NDDOCR
  - NDDOT
  - NDHP
  - NDG&F
  - DES
    - State Radio
      - CAD, NetMotion
    - Homeland Security

Public Safety Manager

Public Safety Team Platform Team Leader

Program Administrator

System Administrator

Systems Engineer

Infrastructure Team Lead

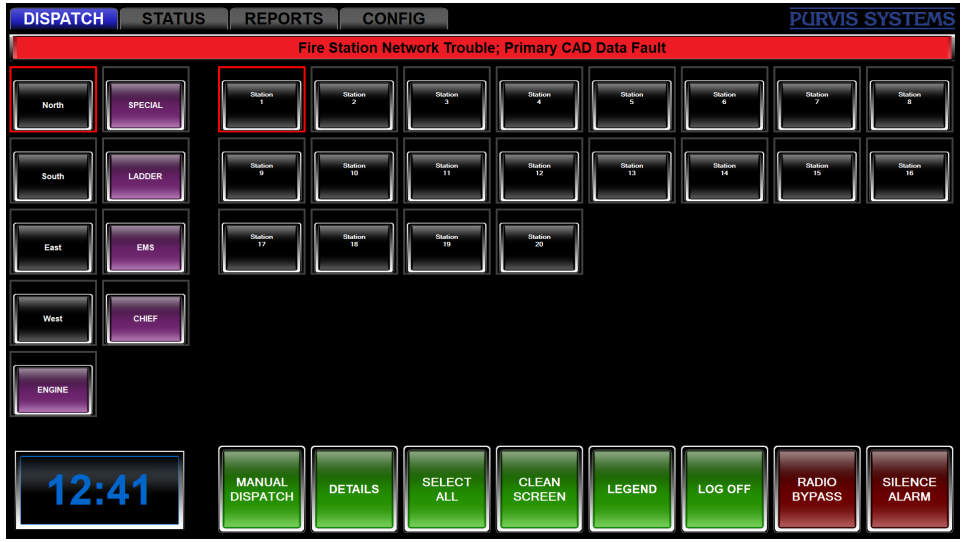
Field & Facility Technicians (11)

Paging

- VHF
  - Legacy systems, known capabilities
    - Desire to decommission VHF systems
  - Numerous options
- 800MHz
  - SIRN based – all consoles and towers capable of paging
  - 1 vendor for pagers – Unication
    - State contract will be procured
- PSAP Workgroup studying options

Ancillary System POCs

- PSAP Weather Sirens
- 800 MHz Paging
- Station Alerting



Questions?

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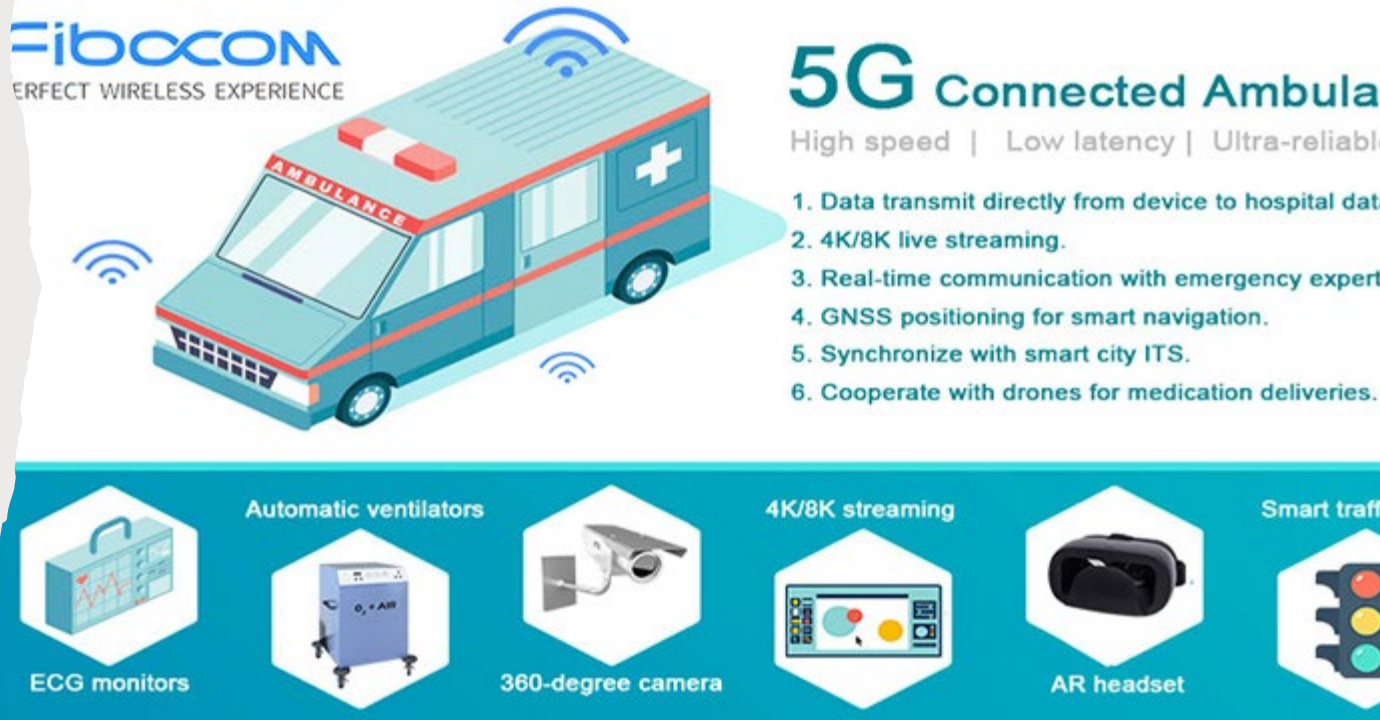
What is Public Safety Broadband?

- Dedicated wireless communication network
  - Designed and reserved for use by public safety agencies, first responders, and emergency personnel
  - Primarily utilizes LTE technology
    - High speed data transmission speeds and reliable, known connectivity
    - Fiber/DSL access for fixed sites such as PSAPs, hospitals, and other facilities



Public Safety Broadband

- Effective communication and coordination between various government entities and agencies, private groups, etc.
- Enhanced situational awareness
- Faster response times
- Increased interoperability
- Future proofing technology
  - Provide priority to certain applications in the future

Public Safety Communications Evolution

Two-Way Land Mobile Radio (LMR)

Two-way wireless communication system

- Highly reliable
- Limited interconnectivity with other systems
- Mission-critical voice services
- Basic data transmission
- Public safety enhanced features (e.g., push-to-talk)
- Limited transmission range
- Enhanced performance enabled by Project 25 (P25)

Nationwide Public Safety Broadband Network

Public safety-grade data network

- Mission critical voice over LTE
- Single integrated device (voice & data) for certain user classes
- Dedicated network built to public safety requirements using dedicated and allocated 700 MHz spectrum

Existing Private/Commercial Mobile Data

Other data-enabling infrastructure

- Available to augment mission critical voice communications
- May include wireline, cellular, mesh, microwave, satellite, wireless local area (e.g., WiFi), paging, HF radio, and/or unlicensed wireless networks
- Sufficiency for public safety communications based on specific user group needs

Emerging Technologies

Device-to-device (D2D) communication

- Devices communicate directly with each other without routing the data paths through a network infrastructure
- Proximity services
- Resiliency options

Integrated Technologies

- Administrative Data
- Mission Critical Data
- Administrative Voice
- Mission Critical Voice

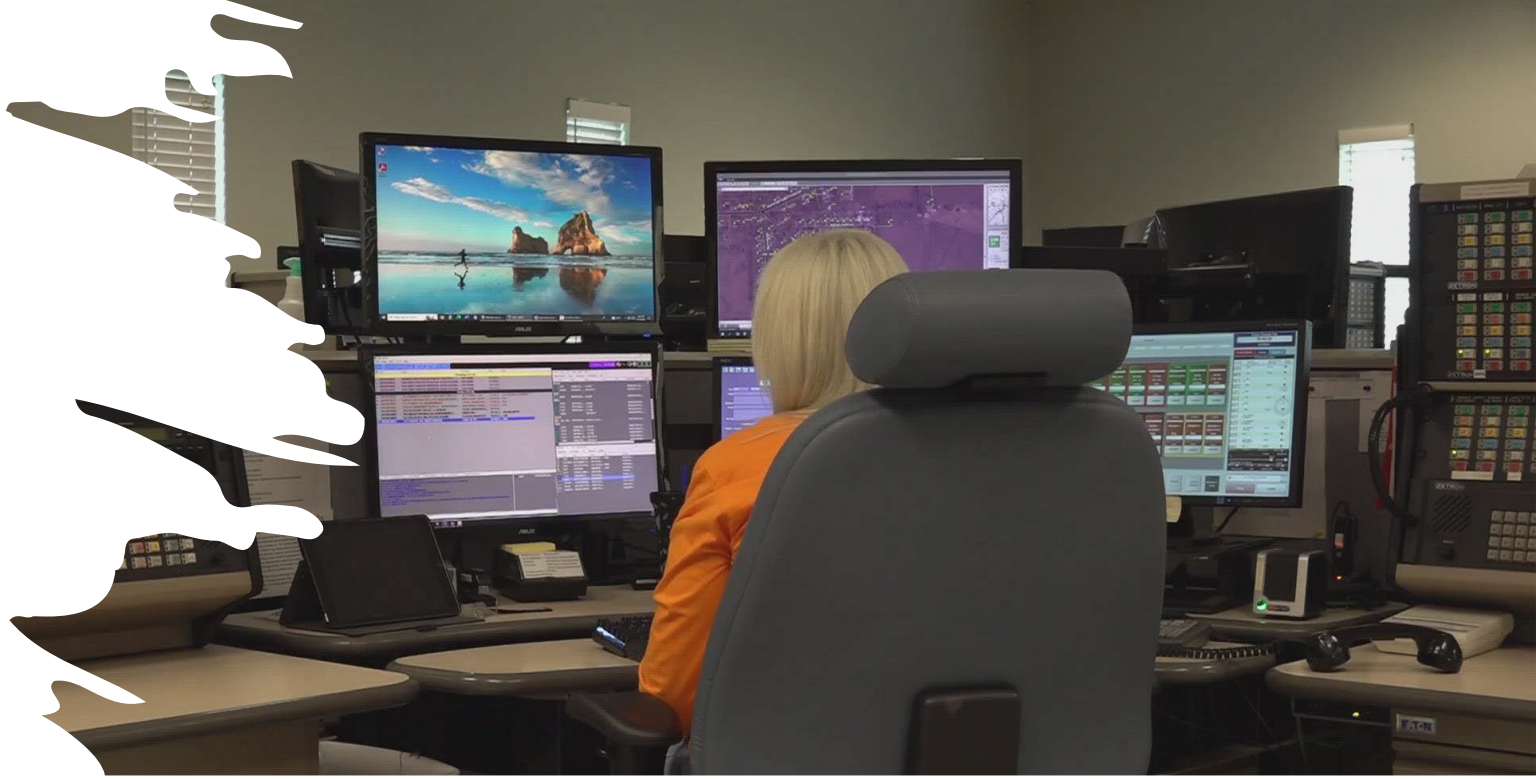
Public Safety Communication Landscape

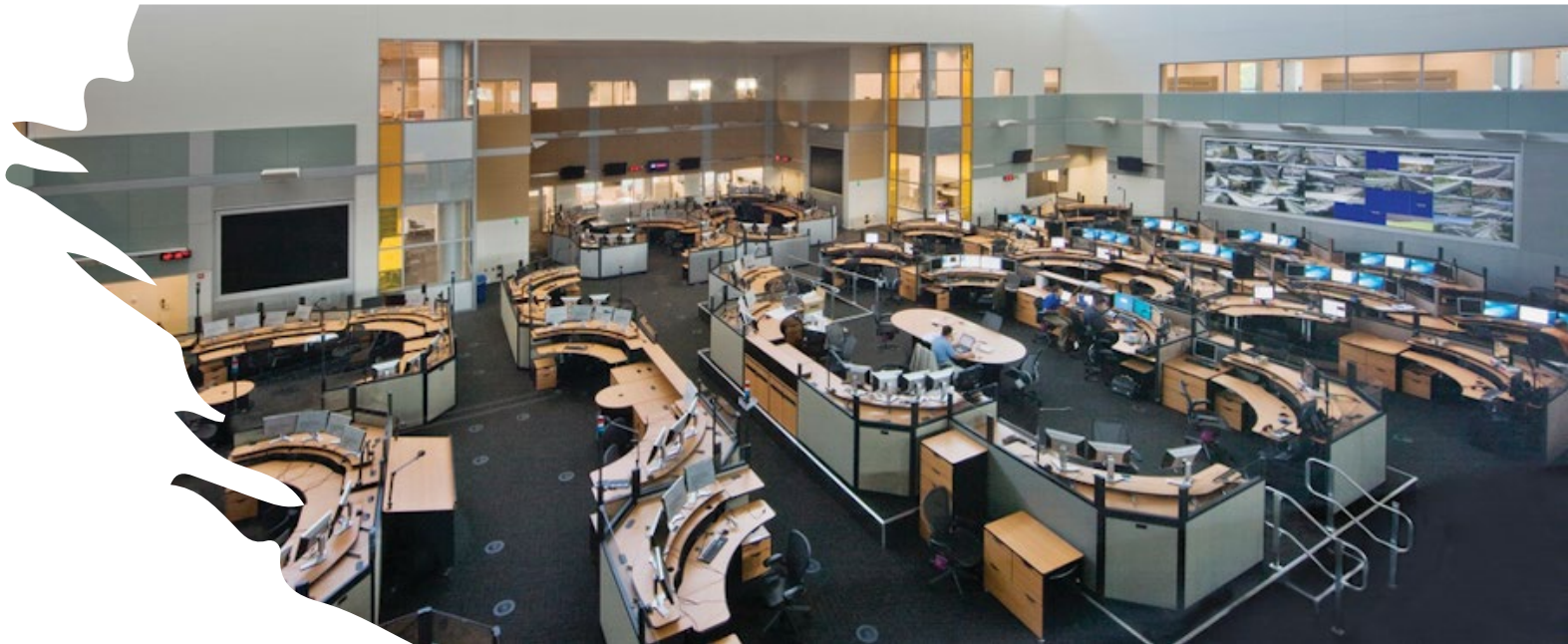
Public Safety Broadband Use Cases

- Emergency Response
- Disaster Management
  - Mapping and other data
- Law Enforcement
  - SUAS video, photo access, CCTV access
- Firefighting and Rescue
  - Building plan access, sUAS video
- Medical Emergencies
  - Medical data transmission
- Public Event Management
  - Traffic monitoring, CCTV sharing
- Critical Infrastructure protection & management
  - Sensor monitoring, SCADA, warnings

Public Safety Broadband & 911 Dispatch

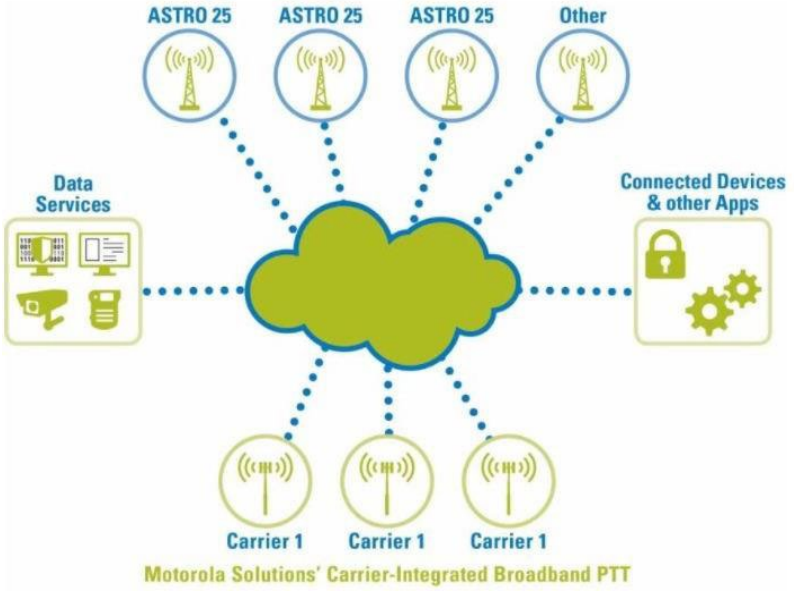
- Provide dispatchers with advanced communication tools and real time data
- Enhance situational awareness
  - SR/HP video streaming example
- Increase interoperability
  - Between agencies, PSAPs, Govt levels
- Data Sharing
- Multimedia capabilities
  - Streaming video, photos, from callers and responders





Connectivity with SIRN

- Critical Connect Technology
  - Will allow a smartphone device with data to be able to communicate with responders on the radio system
- Leverage LTE and Wi-Fi Connections to Augment RF Coverage
  - Inside a building that might have LTE Coverage but no RF Coverage
  - Automatically switch to Wi-Fi or LTE networks



Public Safety Broadband & Cyber Security

- Secure data transmission required between networks
    - Dedicated circuits may be required
- Network security
    - VPN tunnel to existing networks
- Endpoint security
    - Passwords, Multi-Factor Authentication
- Incident response planning
- Compliance with regulations
    - Federal, state, and agency

Limitations?


KVLY TV – 2063’

- No inherent jurisdictional and/or geographic routing/capacity limitations
  - Inability to define talk-groups unless utilized in conjunction with SIRN cores
- LMR equipment available as intrinsically safe for fire/Haz Mat usage
  - LTE devices are current rated as lower standard
- No direct mode (off network) functionality available with Verizon/T-Mobile/FirstNet devices
  - Reliant on commercial network – multiple partnerships for backhaul, etc.
- No logging (recording) solution currently available if PSBB is utilized as a stand-alone system

The Future

- Capabilities and resources present without use cases
  - More capabilities than uses in many areas
  - Unique position
- Current technology and applications focused on larger, metropolitan areas
- Resources available for public safety usage as use cases, technologies, and applications become a better fit for smaller populations and rural areas.

Questions?

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