FirstNet Update: CT GIS User Group

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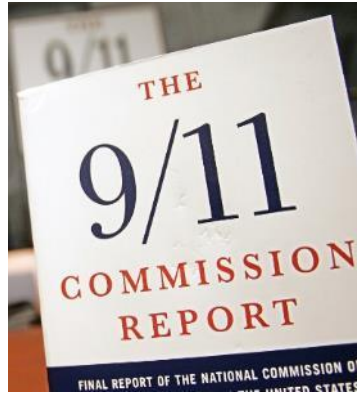# The FirstNet Journey

2001
9/11 attacks

Radio communication challenges affect first responders

2004
9/11 Commission

- Recommends national radio spectrum for public safety purposes
- Public safety unites to advocate for nationwide broadband network

2012
The First Responder Network Authority

Independent agency to deploy Nationwide Public Safety Broadband Network

2012-16
Outreach and Consultation

- Governors identify FirstNet single points of contact
- Consultation in all 56 states/territories
- FirstNet works with states to collect and validate users and coverage data

2016-17
Partnership and State Plans

- Network RFP released
- Award to AT&T
- Delivery of 56 state/territory plans
- 56 Governors Opt-In decisions
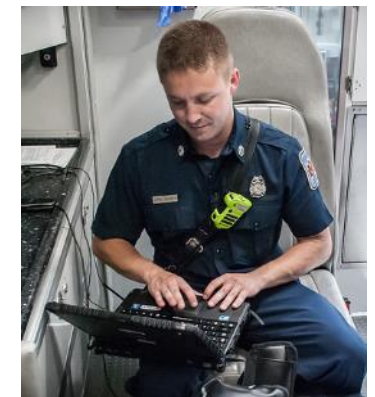
2018-beyond
Advancing the FirstNet Experience

- Engage and collaborate with public safety and industry
- Develop and promote Public Safety Communications roadmap
- Invest in the network

Strategic Vision

THE FIRSTNET EXPERIENCE

FIRST RESPONDER NETWORK AUTHORITY

Oversees, influences and complements the FirstNet Solution with value-adding activities and investment

PARTNERSHIP

Identify and collaborate on opportunities that enhance the FirstNet Solution

AT&T (FIRSTNET SOLUTION)

Designs, delivers and supports the FirstNet Solution based on public safety's needs

VISION Create a dedicated and differentiated broadband communications experience that transforms public safety operations to save lives

MISSION Be a catalyst for advancing the Nationwide Public Safety Broadband Network

The FirstNet Opportunity

The FirstNet Authority is in the position to be a catalyst across its stakeholder groups to effect positive change for the public safety community

Enabled by

- The only network dedicated to public safety
- $18 billion reinvestment capability
- A committed organization with deep expertise

User Eligibility Framework Update

Primary

AT&T continues to refine internal guidance and definitions based on experience and feedback for **Primary User Eligibility**

- Emergency Management
- Fire
- Emergency Medical Services
- Law Enforcement
- Public Safety Communications
- Certain Continuity of Government

Extended Primary

Extended Primary User Eligibility includes several categories of public safety support functions such as:

- Emergency Support and Private Security
- Critical Infrastructure
- Education – K-12/Higher Ed
- Utilities & Energy
- Hospitals, Medical Facilities, Public Health (non-EMS)
- Transportation Services
- Internet of Things (IoT)/Devices

QPP (aka "First Priority")

- **Quality of Service (QoS):** Minimum/maximum service quality parameters
- **Priority:** Gives preferred access to network resources
- **True Preemption:** Terminates/relocates non-primary/commercial users so high-priority users have access

FIRSTNET MOMENTUM

72 dedicated deployable network assets, plus three Flying COWs™ and one Aerostat

100+ unique apps in the FirstNet App Catalog

450+ Asset deployments for planned and emergency events this year
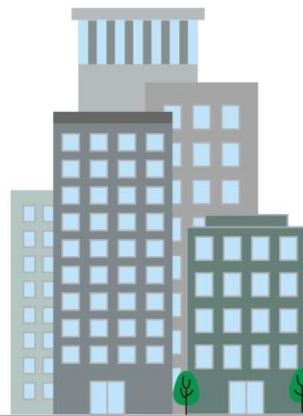
100+ FirstNet Ready™ devices

~75% Band 14 coverage completion

1.3M+ FirstNet connections

12,000+ public safety agencies and organizations subscribed
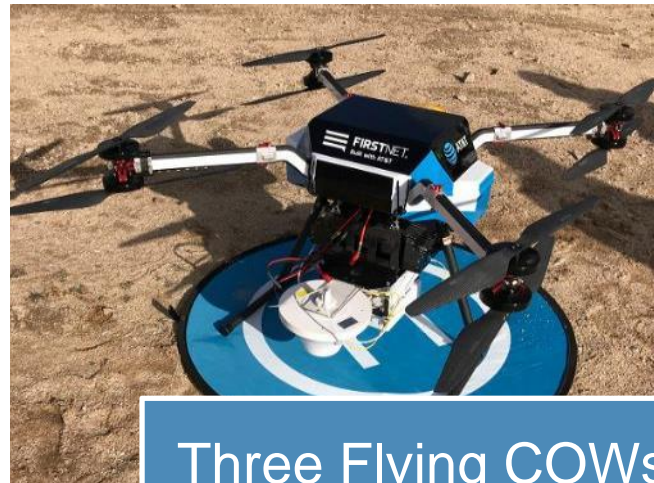
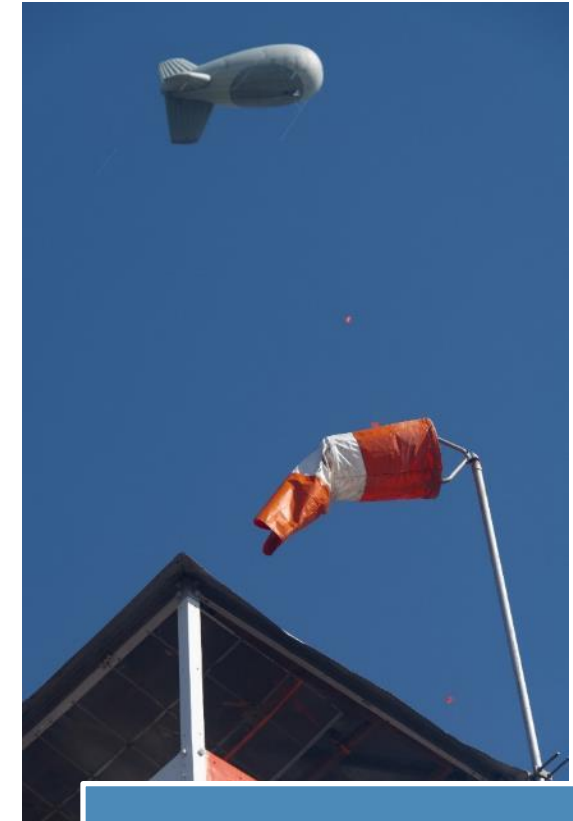**FirstNet**

FirstNet-Dedicated Deployable Assets

- Subscribing agencies can request deployables to support scenarios, including disasters, critical incidents, and planned events

- All expenses directly associated with FirstNet deployables are included at no cost to FirstNet subscriber agencies

72 FirstNet SatCOLTs

Three Flying COWs

One aerostat

FirstNet

FirstNet Device Ecosystem

Phones and Devices

Tablets and Laptops

Smart Devices

Connected Devices

Accessories

Sample of FirstNet Ready devices as listed on FirstNet.com. This slide does not constitute an endorsement by FirstNet Authority of any product or service, organization or company.
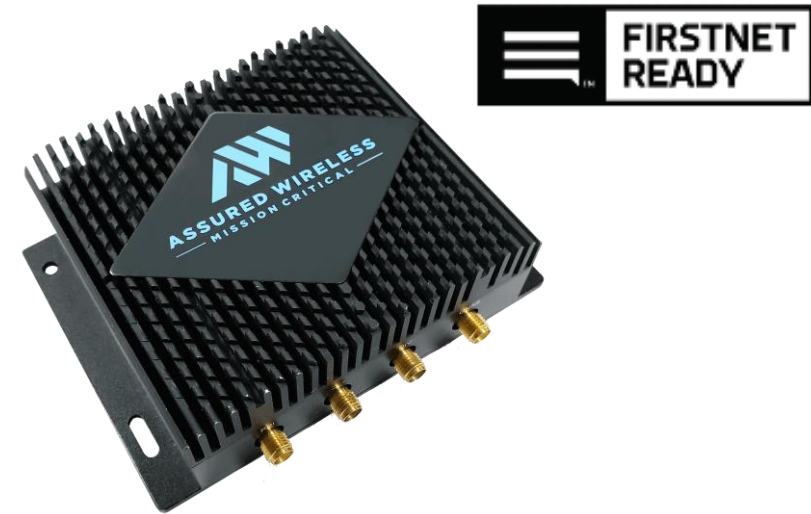
HPUE Devices

- FirstNet devices operating on Band 14 are allowed to transmit using the 3GPP standard for high powered user equipment (HPUE). **This is unique to FirstNet.**

- High powered user equipment (HPUE) may allow **six times the normal cellular power level** and can greatly enhance the effective range for users.

- HPUE devices are coming to market with two recently approved for use on FirstNet, as of June 2020.

- See FirstNet.com for additional information.

Assured Wireless AW12 USB modem

AirgainConnect AC-HPUE

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FirstNet®

Enabling Apps Ecosystem to Meet the Needs of Public Safety

JOIN PROGRAM
- Open and free FirstNet app developer program membership
  - Developers
  - Policymakers
  - IT Specialists
  - First Responders

Connect, innovate and create opportunity

DEVELOP APPS
- Access to resources, e.g., APIs and code optimization tools
- Complete checklist and source code scan

Events including conferences and workshops

TEST AND CERTIFY
- Submit app for FirstNet certification and review
- Receive and address results
- Review branding and media guidelines

Promote product and evangelize solution

APP CATALOG
- Use FirstNet tools for app distribution and management
- Collect participation points

Direct exposure to public safety market

MANAGE APPS
- Review user ratings and feedback
- Manage app versioning and metadata

Blogs and forums to advance innovation

Security

- **Dedicated** Security Operations Center (SOC) for FirstNet subscribers

- **Coordinates** with AT&T's Global Network Operations Center (GNOC)

- **24x7x365** situational awareness

First Responder Network Authority Roadmap Domains

Core

- EPC
- IMS Core
- Services Platforms
- App Servers
- Service Enablers

Coverage & Capacity

- Macro Coverage
- Capacity
- In-building Solutions
- Temporary/On-Demand Coverage
- Range Extension
- Device-to-Device
- Air-to-Ground
- Maritime Operations
- Availability/Reliability/Resiliency/Hardening

Situational Awareness

- Location Services
- Sensors
- Wearables
- Cameras/Video
- Mapping/Geographic Information System (GIS)
- Data Analytics/Artificial Intelligence

Voice Communications

- Mission Critical Push-to-talk (MCPTT)
- PTT Interconnection

Secure Information Exchange

- Data Access
- Data Sharing
- Cybersecurity
- Identity, Credential and Access Management (ICAM)/Single Sign-On

User Experience

- Priority Services
- Applications
- Devices
- Accessories
- Hands Free Operations
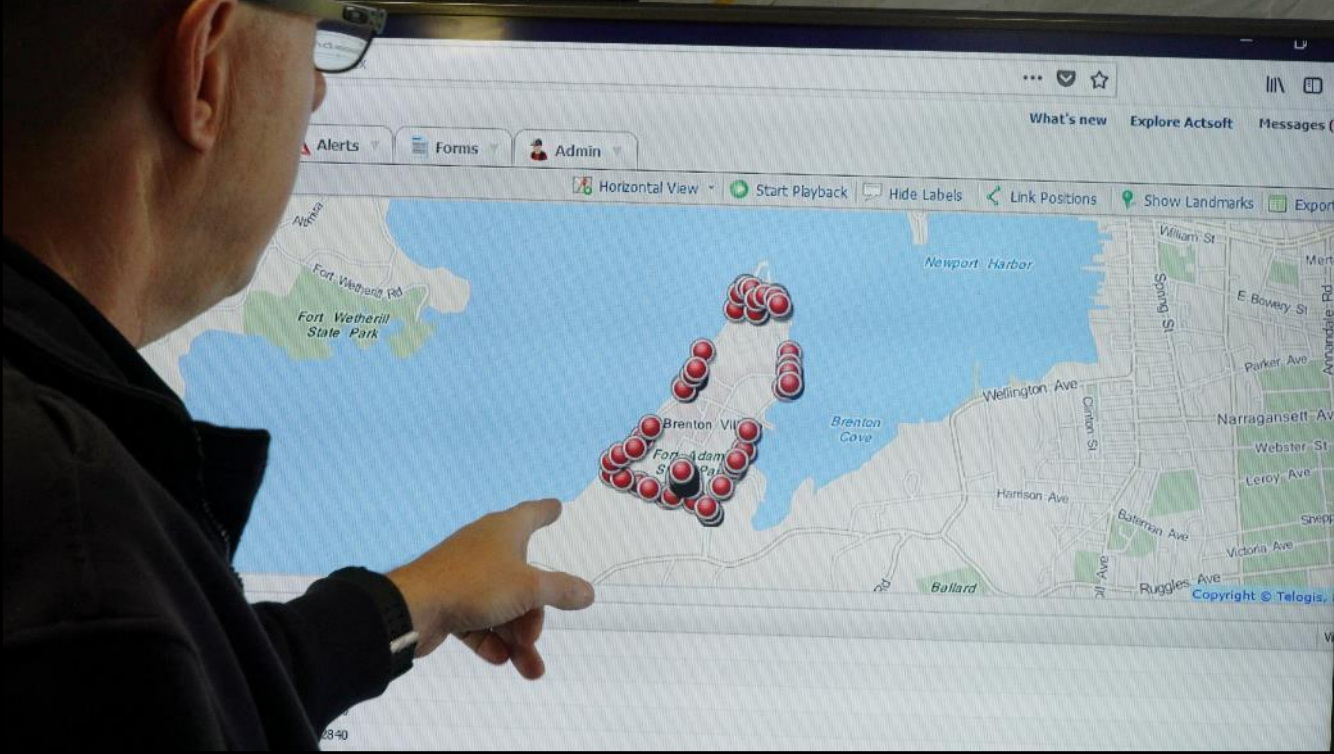- Augmented or Virtual Reality
- Heads-Up Display

FirstNet

Domain Overview

Vision

The FirstNet Authority envisions real-time access, collection, and distribution of information concerning threats, hazards, and conditions in a manner tailored to public safety operations.

SITUATIONAL AWARENESS Technology Landscape

Roadmap Priorities

SITUATIONAL AWARENESS

Domain Overview

Public safety agencies across the Nation have access to an unprecedented amount of information that is ever increasing as technologies evolve and sensors proliferate. Situational awareness refers to the ability to aggregate and synthesize that information in real-time from multiple sources (e.g., human, machine, sensors) and to derive and present actionable insights to public safety professionals. The FirstNet network should allow for and include capabilities that automatically collect and analyze data into actionable insights to be shared with public safety personnel in a manner that enables critical data to reach responders amid split-second decision-making conditions and other emergencies.

The Vision

The FirstNet Authority envisions real-time access, collection, and distribution of information concerning threats, hazards, and conditions in a manner tailored to public safety operations.

Key Technology Areas that Comprise Situational Awareness

- **Location Services:** Always and accurately locate people, vehicles, and assets on a day-to-day basis (including x, y, and z coordinates), both in- and outdoors, whether stationary or moving.
- **Mapping / GIS:** Access, integrate, and present geolocation information (including z-axis) from multiple sources (e.g., sensors, wearables, cameras) in an actionable manner, together with incident data, traffic and routing, hazard areas, and weather conditions.
- **Cameras / Video:** Gather and stream video in all situations (e.g., dash cameras, drones, body cameras, buildings).
- **Data Analytics / AI:** analyze massive amounts of collected data to assist in decision-making and response in real-time conditions.
- **Wearables:** Monitor personnel health (e.g., vital signs) and safety (e.g., environmental conditions).
- **Sensors:** Collect, process, and transmit data from various sources (e.g., smart buildings, weather sensors, traffic sensors) to provide insight into existing conditions for all scenarios.

197 ENGAGEMENTS

46 STATES

7,929

Public safety engagements that addressed Situational Awareness (April 1 – June 30, 2019)

Act as a catalyst in the industry for the creation and evolution of mapping and display technologies that allow easy consumption of geo-location information.

Collaborate with industry and advocate for the development of standards, devices, technologies, and systems that collect, synthesize, analyze, and share information regarding personnel, assets, threats, and hazards in a manner that improves public safety operations.
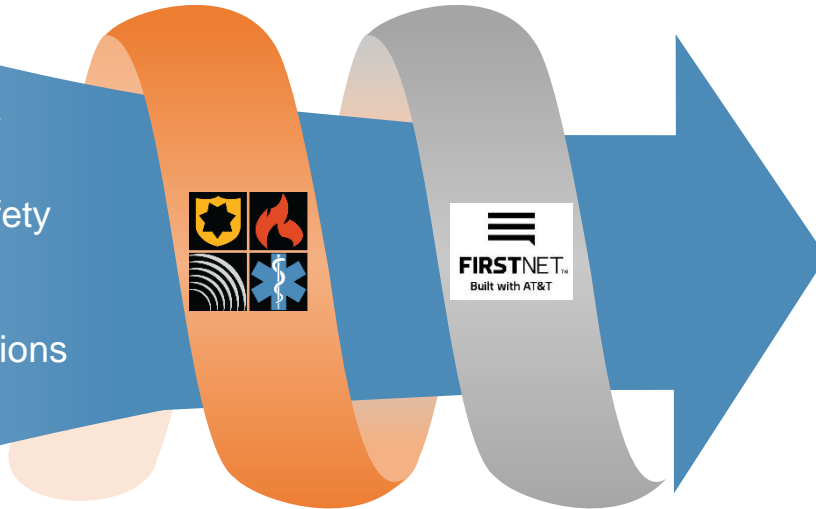
FirstNet Network Benefits Derived from Public Safety Input

FirstNet: for public safety, by public safety

- Public Safety Advisory Committee
- PSA Senior Public Safety Advisors and SMEs
- Public Safety Entities
- Public Safety Associations

Service Plans & Procurement	Coverage	Devices	Basic Services
First Priority®	ICAM	App Catalog	FirstNet Central
Public Safety Home Page	App Developer Program	Solutions	In-building Solutions
Deployables	Training	Customer Care	Cybersecurity

FirstNet Network Benefits

Questions?

FirstNet.gov   FirstNet.com

FirstNet