



FirstNet: Our Nation's Public Safety Network

June 8, 2023

Kevin R. Nida, Fire Battalion Chief (Ret.), Senior Public Safety Advisor



Kevin Nida, FirstNet Authority Sr. Public Safety Advisor - California



Los Angeles F.D. Battalion Chief (Ret.)

37 Years of Fire, EMS, Law Enforcement & 9-1-1 Center experience
25 years of experience as a Communications Unit Leader (COML) and
Communications Technician (COMT)

25 years of experience in Interoperable Communications
20 years of experience in Urban Search & Rescue Communications
10 years as California State Firefighters Association President
5 years of experience with the LA-RICS BTOP LTE Program



**Joe Wassel,
Executive Director**

- **March 2023 - FirstNet Authority Executive Director**
- **April 2019-March 2023 – Defense Information Systems Agency (DISA) - Cyberspace Operations Executive, Ft. Meade, MD**
- **February 1998 - April 2019 - U.S. Department of Defense**
 - **Director, C4 Resilience and Mission Assurance & Director, DOD Public Safety Communications, Pentagon**
 - **Deputy Director, Defense Industrial Base Cybersecurity Task Force, Pentagon**
 - **Director, Secretary of Defense Communications, Pentagon**

17 Member FirstNet Board of Directors

FirstNet Authority Board Members



Chief Richard Carrizzo
Board Chair



Brian Crawford
Board Member



Alexandra Fernández Navarro
Board Member



Renee Gordon
Board Member



Kristin Graziano
Board Member



Mayor Billy Hewes
Board Member



Peter Koutoujian
Board Member



Warren Mickens
Board Member

17 Member FirstNet Board of Directors



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Jocelyn Moore
Board Member



Paul R. Patrick
Board Member



Merrick B. Garland
Board Member
Department of Justice



Robert Brown
Designee
Department of Justice Designee



Shalanda Young
Board Member
Office of Management and Budget



Joe Carlile
Designee
Office of Management and Budget
Designee



Alejandro Mayorkas
Board Member
Department of Homeland Security



Billy Bob Brown, Jr.
Designee
Department of Homeland Security
Designee



The PSAC provides subject matter expertise on concepts, policies, procedures, technologies, and operational methods developed in support of the FirstNet network. Its perspective helps ensure necessary operational constructs are met for critical first responder communications.

- 44-member committee with public safety and state/local/tribal representatives and non-traditional first responders
- Led by seven-member Executive Committee
- Bi-monthly webinars on essential topics related to network, products, and devices, plus in-person meeting(s) each year
- Operates Tribal Working Group to provide advice on tribal outreach, education and consultation

Network Services | Technologies | Devices & Applications



The Twin Towers

The Pentagon

Shanksville, PA



Creator: National Museum of American History | Credit: National Museum of American History, Smithsonian Institution
Copyright: Copyright Susan C. Watts



Credit: Department of Defense



Credit: Firehouse Magazine

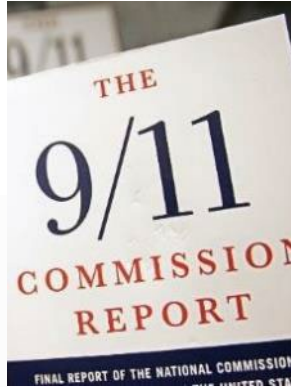
***A Common Field One Day
A Field of Honor Forever***
Captain Stephen Ruda, LAFD

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 FirstNet Authority Established

- Independent agency to deploy Nationwide Public Safety Broadband Network



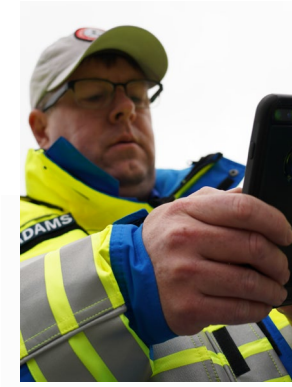
2012–16 Initial Outreach and Consultation

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



2016–17 Partnership and State Plans Created

- Network RFP released
- Award to AT&T
- Delivery of 56 state/territory plans
- 56 Governors Opt-In decisions



2018–19 Network Deployment Begins

- FirstNet core launched
- Band 14 buildout nationwide
- Roadmap released to advance FirstNet, guide future investments



2020 and beyond Roadmap and Investment

- Engage and collaborate with public safety and industry
- Execute the FirstNet Authority Roadmap
- Invest in the network
- Continue Band 14 buildout

An Innovative Public-Private Partnership



Leads & Measures

First Responder Network Authority

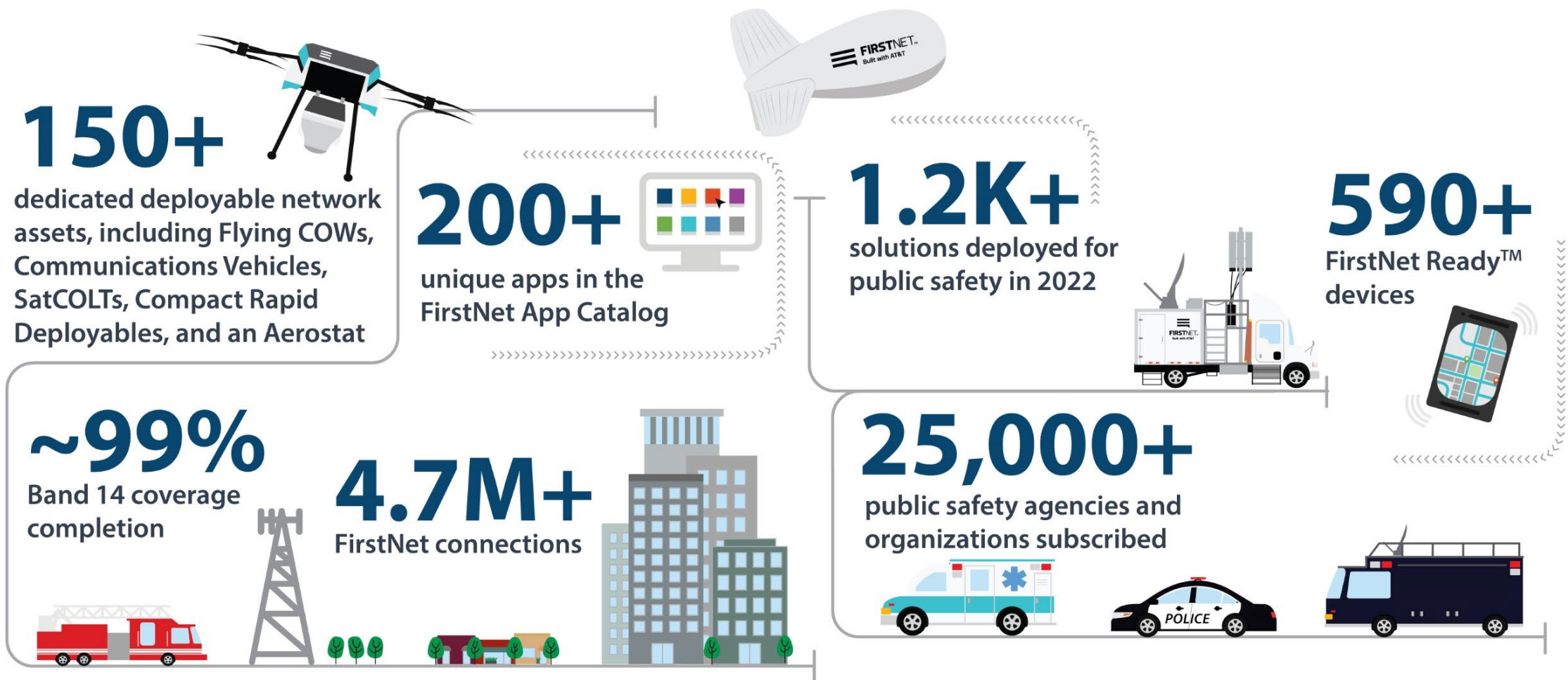
- Partner oversight and support
- Public safety advocate
- Technical expertise
- Innovation strategy and investment

Executes and Reports

AT&T

- Nationwide core
- RAN build-out
- Adoption and customer care (24x7x365)
- Security operations center
- Mission-critical services
- App and device ecosystems





Source: <https://about.att.com/story/2021/momentous-public-safety-expansion.html>

*These numbers have not been validated by the FirstNet Authority

Public private partnership provides:



Relationship between public safety stakeholders and the network so FirstNet is built with public safety input



Existing infrastructure and economy of scale



Assets, capabilities and synergies to meet FirstNet Authority stated objectives

Public safety subscribers get:



Nationwide public safety mission achieved with priority, preemption and a resilient network



Dedicated 20 MHz of prime spectrum



Responsive ecosystem of apps, devices, and services



CORE

- Generational Updates (e.g., 4G to 5G)
- Priority and Preemption, including Uplift on 5G
- Mission Critical Services Platforms and Enablers on 5G
- Network Security on 5G



COVERAGE & CAPACITY

- Outdoor Coverage Expansion
- Indoor Coverage Expansion
- Unique Coverage Solutions Advancement



SITUATIONAL AWARENESS

- Locate and Present Personnel Location
- Location Services Integration



VOICE COMMUNICATIONS

- Operationalize FirstNet Push-to-Talk
- Active Role in Standards
- Critical Features



SECURE INFORMATION EXCHANGE

- Database Integration
- Application Integration



USER EXPERIENCE

- Mission-Enabling Applications
- Mission-Capable Devices



Focus on supporting mission critical services and enablers

Services

- ❑ Mission-critical push-to-talk
- ❑ Mission-critical video
- ❑ Mission-critical data



Enablers

- ❑ Proximity services (ProSe)
- ❑ QoS, Priority and Preemption (QPP) and Dynamic Controller
- ❑ Group Communication Services
- ❑ Isolated E-UTRAN Operation for Public Safety (IOPS)
- ❑ Multimedia Broadcast Multicast Services (MBMS)
- ❑ Common API framework

arrangement to construct, manage, and operate the nationwide public safety broadband network between the First Responder Network Authority and secondary user to permit—

(i) access to network capacity on a secondary basis for non-public safety services; and

(ii) the spectrum allocated to such entity to be used for commercial transmissions along the dark fiber of the long-haul network of such entity.

(3) LEASE FEES RELATED TO NETWORK EQUIPMENT AND INFRASTRUCTURE.—A fee from any entity that seeks access to or use of any equipment or infrastructure, including antennas or towers, constructed or otherwise owned by the First Responder Network Authority resulting from a public-private arrangement to construct, manage, and operate the nationwide public safety broadband network.

(b) ESTABLISHMENT OF FEE AMOUNTS; PERMANENT SELF-FUNDING.—The total amount of the fees assessed for each fiscal year pursuant to this section shall be sufficient, and shall not exceed the amount necessary, to recoup the total expenses of the First Responder Network Authority in carrying out its duties and responsibilities described under this subtitle for the fiscal year involved.

Review. (c) ANNUAL APPROVAL.—The NTIA shall review the fees assessed under this section on an annual basis, and such fees may only be assessed if approved by the NTIA.

(d) REQUIRED REINVESTMENT OF FUNDS.—The First Responder Network Authority shall reinvest amounts received from the assessment of fees under this section in the nationwide public safety interoperable broadband network by using such funds only for constructing, maintaining, operating, or improving the network.

47 USC 1429. SEC. 6209. AUDIT AND REPORT.

(a) AUDIT.—

(1) IN GENERAL.—The Secretary of Commerce shall enter into a contract with an independent auditor to conduct an audit, on an annual basis, of the First Responder Network Authority in accordance with general accounting principles and procedures applicable to commercial corporate transactions. Each audit conducted under this paragraph shall be made available to the appropriate committees of Congress.

(2) LOCATION.—Any audit conducted under paragraph (1) shall be conducted at the place or places where accounts of the First Responder Network Authority are normally kept.

(3) ACCESS TO FIRST RESPONDER NETWORK AUTHORITY BOOKS AND DOCUMENTS.—

(A) IN GENERAL.—For purposes of an audit conducted under paragraph (1), the representatives of the independent auditor shall—

(i) have access to all books, accounts, records, reports, files, and all other papers, things, or property belonging to or in use by the First Responder Network

SEC. 6208. PERMANENT SELF-FUNDING

REQUIRED REINVESTMENT OF FUNDS

The First Responder Network Authority shall reinvest amounts received ... in the nationwide public safety interoperable broadband network.”

Grant Opportunities

<https://www.rd.usda.gov/programs-services/telecommunications-programs/community-connect-grants#to-apply> Community Connect Grants

This program provides financial assistance to eligible applicants that will provide broadband service in rural, economically-challenged communities where service does not exist.

<https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds> Coronavirus State and Local Fiscal

Recovery Funds

Program recipients with questions about reporting, technical issues, eligible uses of funds, or other items click here for self-service resources. Self-Service Resources Through SLFRF, over 30,000 ...

<https://bja.ojp.gov/funding/opportunities/o-bja-2022-171322> FY 2022 Edward Byrne

Memorial Justice Assistance Grant Program – State Solicitation | Bureau of Justice Assistance
Through this opportunity, BJA will award JAG Program funds to eligible states as described in the solicitation.

<https://www.ojp.gov/funding/state-administering-agencies/california-saa> State Administering Agencies | California SAA | Office of Justice Programs

Bureau of Justice Assistance (BJA) Agency Head Kathleen T. Howard Executive Director
California Board of State and Community Corrections 2590 Venture Oaks Way, Suite 200
Sacramento, CA 95833 Phone:...

Grant Opportunities

<https://www.fema.gov/grants/preparedness/homeland-security#nofos> Homeland Security Grant Program
The Homeland Security Grant Program (HSGP) includes a suite of risk-based grants to assist state, local, tribal and territorial efforts in preventing, protecting against, mitigating, responding to ...

<https://www.fema.gov/grants/preparedness/about/state-administrative-agency-contacts> State Administrative Agency (SAA) Contacts
The State Administrative Agency (SAA) is the only entity eligible to apply for and submit the application for the Homeland Security Grant Program (HSGP) and its component programs — State Homeland ...

<https://www.rd.usda.gov/programs-services/telecommunications-programs/distance-learning-telemedicine-grants> Distance Learning & Telemedicine Grants
The Distance Learning and Telemedicine program helps rural communities use the unique capabilities of telecommunications to connect to each other and to the world, overcoming the effects of remoten...

Stakeholder Engagement

Engage with public safety, industry, and partners

FirstNet Authority Roadmap



Investment Decisions

1. Adheres to the enabling legislation
2. Guided by the investment principles
3. Aligns to the FirstNet Authority Roadmap



**Expand the NPSBN
Deployables Fleet**



**Enhance the
FirstNet Core for 5G
network capabilities**



**Improve in-building
coverage, resiliency**

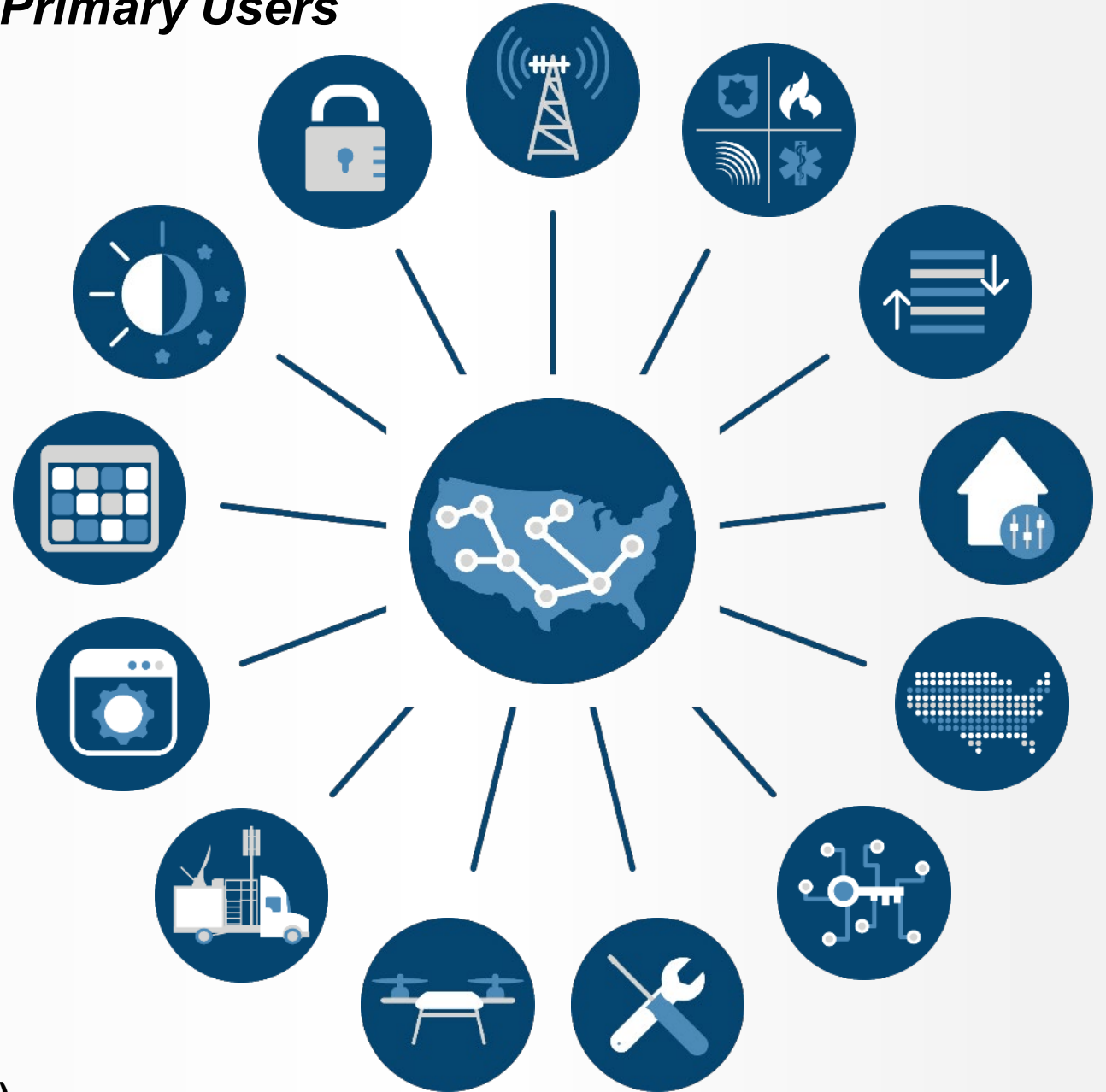
Agency Deployed Inside Building RAN – Cell Booster Pro






- **Band 2**
- **Band 14**
- **15,000 SF Range**
- **Up to 45,000 SF with three devices**
- **Up to three devices free to FirstNet agencies while supplies last.**



Unique FirstNet Network Benefits *for Primary Users*

- Band 14 → 20 MHz Spectrum
- Contract oversight by the FirstNet Authority, a federal agency
- Priority, Preemption on Band 14 + all AT&T LTE Spectrum
- Uplift Tool: local control
- S1U Encryption of Network Traffic
- Location Based Services - Z Axis (Altitude)
- Network Status Tool (Cell sites & status)
- Cell sites on Tethered Unmanned Aerial Vehicles (Drones)
- FirstNet Deployable Program: 150+ dedicated assets (SatCOLTs, CRDs, Comms Vehicle and more) with 14-hour response for emergencies
- App Catalog/Curated Public Safety Apps
- App Developer Program with Emphasis on Security
- Dedicated Customer Service 24x7 for FirstNet Users
- Dedicated 24x7 Security Operations Center (SOC for FirstNet)



-  Fire – Situational Awareness & Lifeguard Patrol/Rescue Drones, SCBA Telemetry, Mapping, Weather, & LMR to LTE PTT.
-  EMS – EPCR, 12 Lead EKG, Ultra-Sound, AMA's, Community Telemedicine & in-hospital LMR to LTE PTT.
-  LE – Situational Awareness Drones, Patrol Drones, K9, Robots, Mapping, Search & Rescue, & LMR to LTE PTT.
-  ECC – Back-up CAD feeds, AVL, Remote Dispatch, CRD's for additional bandwidth resiliency & LMR to LTE PTT.
-  EM – Situational Awareness , CRD's for additional bandwidth resiliency, & Continuity of Operations.

A white FirstNet truck is parked on a paved area in the foreground. In the background, the USNS Mercy hospital ship is docked at a port. The ship is white with a large red cross on its side and the text "U.S. NAVAL HOSPITAL SHIP" and "MERCY" visible. Palm trees are visible in the background under a clear sky.

FirstNet Support for COVID-19 Response

FirstNet supported connectivity to
the Navy hospital ship USNS Mercy
docked at a port in Los Angeles

City of Alexandria, VA Uses FirstNet for 911 Remote Call Taking

“We didn’t want to rely on people’s home internet because we know they can lose connectivity. We know we won’t lose connectivity with FirstNet.”

Renee Gordon

Director, Dept. of Emergency &
Customer Communications
City of Alexandria, Virginia



Deployable Fleet

150 deployable assets dedicated to public safety and available nationwide, including 3 Flying COWs, 3 Communications Vehicles, 4 Compact Rapid Deployables, and an Aerostat

Subscribing agencies can request at no cost to support scenarios, from **disasters to critical incidents and planned events** via FirstNet Customer Support.

Service included: All expenses directly associated with FirstNet deployables are included **at no cost to subscribing agencies**



Types of Deployables in the fleet



SatCOLT



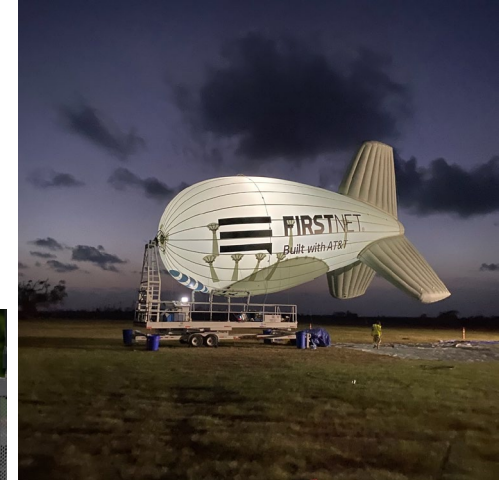
**Communications
Vehicle**



Flying COW



**Compact Rapid
Deployable**



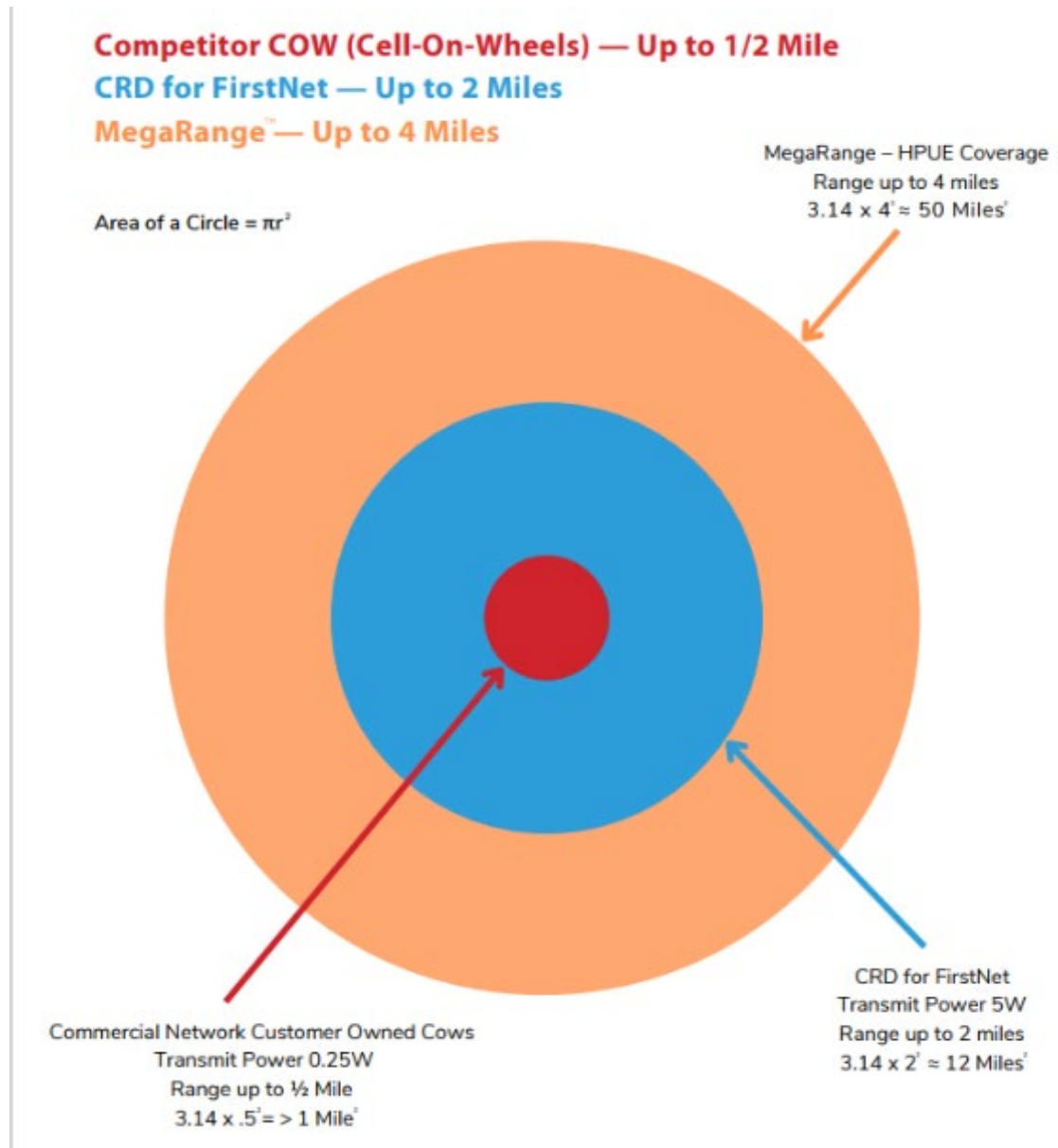
Aerostat

FirstNet Mission-Ready Solutions

- FirstNet MegaRange™
- Z-Axis for FirstNet
- Compact Rapid Deployables
- FirstNet Push-to-Talk:
LMR to LTE interoperability



The Compact Rapid Deployable – Coverage Bubble

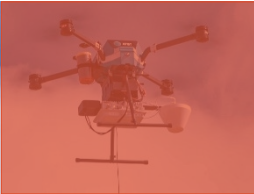


Aerostat



Antenna Height: **1000 feet**
 Coverage Radius: **~10 miles**
 Spectrum/Backhaul: **Multi-Band/Satellite or Fiber**
 Capacity: **~350 (Sat)/350+ (Fiber) Active Users**

Cell on Wings



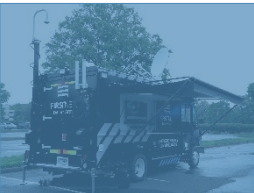
Antenna Height: **400 feet**
 Coverage Radius: **~5 miles**
 Spectrum/Backhaul: **Band 14/Satellite or Fiber**
 Capacity: **~350 (Sat)/350+ (Fiber) Active Users**

SatCoLT



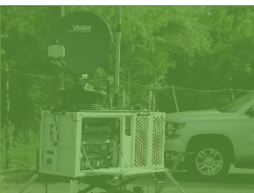
Antenna Height: **60 feet**
 Coverage Radius: **~1-3 miles**
 Spectrum/Backhaul: **Multi-Band/Satellite**
 Capacity: **~350 Active Users**

Communications Vehicle



Antenna Height: **30 feet**
 Coverage Radius: **~1+ miles**
 Spectrum/Backhaul: **Band 14/Satellite, Ethernet, or LTE**
 Capacity: **50+ Active Users**

Compact Rapid Deployable



Antenna Height: **16 feet**
 Coverage Radius: **up to 2 miles**
 Spectrum/Backhaul: **Band 14/Satellite, Ethernet, LTE, or WiFi**
 Capacity: **~50 Active Users**

**Coverage Range will vary by deployment*
***Connected Users & Backhaul are upper limits*

FCC Grants FirstNet Band 14 Spectrum License Renewal

RESTON, Va. – On May 26, 2023, the Federal Communications Commission (FCC) renewed the First Responder Network Authority's (FirstNet Authority) Band 14 spectrum license, in accordance with requirements laid out in the Spectrum Act. Renewal of the Band 14 license is necessary for the continued operation of FirstNet, the nationwide public safety broadband network. The license renewal is valid for 10 years from the expiration of FirstNet's initial license, which occurred in November 2022, or for the remaining period of the FirstNet Authority's authorization from Congress, whichever is sooner.

5x5: The Public Safety Innovation Summit



5x5 will feature:

- **The latest innovations in public safety communications technology.**
- **Presentations, panel discussions, and campfire-style sessions on the latest innovations in public safety communications technology**
- **Technology demonstrations from PSCR and FirstNet Authority staff, award recipients, and external partners.**
- **A half-day program for technology roadmapping workshops.**
- **Opportunities for collaboration and engagement with leaders in public safety communications technology research, development, deployment, and usage.**

FirstNet Authority 2023 Agency Adoption and Technology Survey



Thank You



FirstNet Authority 2023 Agency
Adoption and Technology Survey



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