



# BayRICS Quarterly Update

Bay Area UASI Approval Authority

March 14, 2019



## Radio Interoperability Current Activities

- System Key Exchange
  - Licensing Issues
  - Alias Abbreviations
- Regional Radio Programming Analysis



# 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





# FirstNet

## **Adoption Update:**

- Nationwide, 369,000 subscribers from more than 6,000 public-safety agencies
  - 26,980 of the subscribers and 246 of the public-safety agencies are from California

## **Buildout Update:**






- 696 cell sites in CA updated to support operations on Band 14 spectrum
- AT&T expects to complete about 2,500 Band 14 upgrades on existing sites—half of the 5,000 upgrades promised to California in its state plan—by the end of March 2019

## **FirstNet Authority Update:**

- Bay Area Contact: Chris Baker, Senior Public Safety Advisor
- Public Safety Advisory Committee (PSAC)





	<b>Coverage &amp; Capacity (Availability)</b>	<ul style="list-style-type: none"> <li>• Macro Coverage Expansion</li> <li>• Capacity</li> <li>• In-building Solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Temporary/On-Demand Coverage</li> <li>• Range Extension</li> <li>• Device-to-Device</li> </ul>	<ul style="list-style-type: none"> <li>• Air-to-Ground</li> <li>• Maritime Operations</li> <li>• Availability &amp; Reliability</li> </ul>
	<b>Situational Awareness</b>	<ul style="list-style-type: none"> <li>• Location Services</li> <li>• Sensors</li> <li>• Wearables</li> <li>• Cameras/Video</li> </ul>	<ul style="list-style-type: none"> <li>• Mapping/GIS</li> <li>• Data Analytics/Artificial Intelligence</li> </ul>	
	<b>Voice Communications</b>	<ul style="list-style-type: none"> <li>• MCPTT</li> <li>• Interoperability</li> </ul>		
	<b>Secure Information Exchange</b>	<ul style="list-style-type: none"> <li>• Data Access</li> <li>• Data Sharing/Interoperability</li> <li>• Cybersecurity</li> <li>• ICAM/Single Sign-On</li> </ul>		
	<b>User Experience</b>	<ul style="list-style-type: none"> <li>• Priority Services</li> <li>• Applications</li> <li>• Devices</li> <li>• Accessories</li> </ul>	<ul style="list-style-type: none"> <li>• Hands Free Operations</li> <li>• Augmented or Virtual Reality</li> <li>• Heads-Up Display</li> </ul>	



# FirstNet

## Other Considerations

- Early Adopter Network Performance Experience
  - Coverage
  - Capacity
- Planning and Governance
  - Local Control and Uplift Guidelines
  - Mission Critical Push-to-Talk
- Direct Sales





# Questions?

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# Supporting Resources





## FirstNet Buildout Timeline

<b>Quality of Service with Priority and Preemption</b>	March 30, 2018 thru March 29, 2019
<b>Enhanced Voice over LTE (VoLTE) with Priority</b>	March 30, 2019 thru March 29, 2020
<b>3GPP Mission Critical Push-to-Talk (Unicast only)</b>	March 30, 2020 thru March 29, 2021
<b>3GPP Mission Critical Push-to-Talk (Broadcast), Mission Critical Voice/Data/IoT</b>	March 30, 2021 thru March 29, 2022
<b>“Final Operating Condition”</b>	March 30, 2022

# FirstNet Decision Matrix

	Priority	Preemption	B14	Uplift
<b>Orange SIM</b>	Yes	Yes	<b>Device Dependent</b>	<b>No</b>
<b>Black SIM</b>	Yes	Yes	<b>Device Dependent</b>	Yes
<b>Devices:</b>				
SONIM XP8	Yes	Yes	Yes	SIM Dependent
Apple XS	Yes	Yes	Yes	SIM Dependent
Samsung Note 9	Yes	Yes	Yes	SIM Dependent
<b>BYOD</b>	Yes	Yes	<b>Device Dependent</b>	SIM Dependent

Note: Devices list from <https://www.firstnet.com/devices> on 12/02/18