

# New P25 Products and Services 2021

# **Project 25 Technology Interest Group (PTIG)**

www.project25.org

# **L3Harris XL EXTREME™ 400P Portable Radio**

VHF, UHF, 7/800, GPS, Wi-Fi, LTE, Bluetooth







**GPS** 



Wi-Fi



Bluetooth™



LTE



#### WHAT IS NEW

- Built to the toughest industry standards for operation in extreme environments
  - Heat resistant seals and display to withstand temperatures up to 500°
  - Ruggedized against damage from 3-meter drops, salt water and humidity corrosion
- Provides advanced ergonomics for fireground operation
  - Larger emergency button and optional in-building location capability
  - Top display with unique visual zone coding
  - Color tagging and audio playback for the last 5 calls

#### **P25 INTEROPERABILITY SOLUTION**

- Multiband P25 operation in VHF, UHF, 7/800
- CAP certified, field-proven P25 interoperability
- Converged P25, Wi-Fi and LTE technologies

#### **BENEFITS TO PUBLIC SAFETY**

- Keep everyone connected in extreme fireground conditions
- Enhance PTT coverage & simple device management over LTE networks like AT&T® and Verizon®
- Loud and clear audio with industry-leading noise cancellation



www.L3Harris.com

# **L3Harris XL CONNECT™ 95P Portable Radio**

700/800MHz, GPS, Wi-Fi, Bluetooth



### ENHANCED CONNECTIVITY BUILT IN



**GPS** 



Wi-Fi





#### WHAT IS NEW

- New Connect Series: Expands XL platform into the value tier
  - XL Series Dynamic User Interface and crisp color display
  - · Voice and Device Management over Wi-Fi
  - Color tagging and audio playback for the last 5 calls
- Top performance and advanced P25 Feature set
  - Superior RF performance and powerful 3.8W max audio
  - The right P25 features at an affordable price

#### **P25 INTEROPERABILITY SOLUTION**

- CAP certified, field-proven P25 interoperability
- Converged P25 and Wi-Fi technologies
- Multimode solution supports P25, analog, and EDACS®

#### **BENEFITS**

- Communicate from just about anywhere without ever leaving your system with PTT over Wi-Fi
- Private communications with encrypted voice
- Loud and clear audio with industry-leading advanced noise cancellation



www.L3Harris.com





VHF, UHF, 7/800, LTE, WiFi, Bluetooth, NFC

#### **What is New**

- Updated ergonomics and a large, rugged touchscreen
- A new platform for public safety applications, including ViQi, your new virtual partner
- Improved device management software and remote management capability over LTE
- Automatically switch PTT functionality between P25 and LTE based on coverage level and transmit GPS location data via LTE

## **P25 Interoperability solution**

FDMA and TDMA P25 Air Interface interoperability as well as LTE

- Keep eyes up and focus forward with intuitive ergonomic design, voice control, and voice database queries
- Always stay connected by automatically switching between LTE and LMR based on coverage and continuously transmit location data over LTE
- Keep devices in the field longer by implementing updates over LTE





## What is New

# **New BK P25 Portable Radio**

- Tier 1, 2 and Tier 3 Models
  - Tier 1 Top display only, no keypad
  - Tier 2 Top & front display, nav keypad only
  - Tier 3 Full alphanumeric keypad
- Longer Battery Life
  - High capacity Li Ion pack
  - AA Alkaline tray with >16hrs battery life
- Large Bright Color Display and Top display
  - Gorilla glass
- **Integrated Bluetooth Operation**

## **P25** Interoperability solution

- P25 CAP Performance Class A
  - Trunked & Conventional
- Interoperability with Motorola, L3Harris, Tait/Zetron

## **Benefits to Public Safety**

- Large Controls for use with heavy gloves
- IP68 Ruggedized housing in Black or Optic Yellow
- Long popular BK Technologies cloning capability
- NIST FIPS140 2, Level 2 compliant
- NIFC/DOI approved











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https://www.bktechnologies.com/product/bkr-5000portable-radio/



## **New Multi-Mode TETRA-P25 Radios**



## What is New

- Dual-Mode TETRA-P25 selectable through the user menu.
- FCC certified 764-869 MHz (except NPSPAC 806-809/851-854 MHz).

## **P25** Interoperability solution

- P25 CAP certified for nationwide interoperability channels.
- Fully compliant with requirements set forth in Feb 12, 2018 FCC Report & Order governing 700 MHz band.

## **Benefits to Public Safety**

 Cellphone-like speech quality, background noise cancellation, GPS data, Image App.



HTT-500-2





**MDT-500-2** 



http://www.powertrunk.com



# F7010/F7020/F7040 Portable F7510/F7520/F7540 Mobile



#### What is New

- Voice log archives with GPS metadata and mapped RSSI analysis with Radio Discovery Tool (RDT)
- Hardware based advanced system key (ASK)
- Enhanced talkgroup scanning (up to 32 talkgroups with user selectable priority modes)
- Receive only talkgroups prevent unauthorized transmissions

#### **P25** Interoperability solution

- VHF, UHF and 700/800 MHz models
- Conventional Analog FM/P25/Mixed-Mode and P25 Phase 1 (FDMA) and Phase 2 (TDMA) trunking
- AES/DES Encryption with Over-the-Air Rekeying

#### **Benefits to Public Safety**

- Small lightweight and concealable for surveillance and tactical operations and smaller vehicle installs
- Recorded voice log archives with GPS metadata show when and where voice calls were made and can help identify interference issues
- Diagnostics with mapped RSSI analysis values can show lack of coverage where coverage was expected



http://www.icomamerica .com/en/landmobile/

# **TP9600 P25 Portable Radio**

#### What is New

- Powerful 3W speaker
- Dual Mic Active Noise Cancellation
  - In both analog and digital modes
  - With and without speaker mic attached
- OTAP over WiFi or P25 Trunked networks

#### **P25 Interoperability solution**

P25 CAP certified

- Best in class audio performance both receive and transmit
- Industry leading fleet management application
- Choice of colors for easy identification
- Tait Tough IP68, IP65 and MIL-STD-810 G







# **Tait Unified Vehicle**

## What is New

- IP Routing: WiFi-to-Cellular, Ethernet-to-Cellular, Ethernet-to-WiFi
- Voice Recording app: significant enhancements including metadata and user interface
- Remote Application now available for Apple iOS and Android devices
- More broadband frequencies supported:
  - 4G/LTE:B2,B4,B5,B12,B13,B14,B66,B71; 3G:B2,B5
  - WiFi: 2.4GHz, 5GHz

# **P25** Interoperability solution

- Based on CAP certified TM9400 with field proven P25 interoperability
- Open standards WiFi & LTE connectivity

- Vehicle Area Network with choice of connectivity options
- Record ALL voice traffic including off-network simplex calls
- Make and receive radio calls from smartphones and tablets

















# New P25 Tactical Mixed Mode Repeater



## What is New

- Tactical Mixed Mode repeater
- Rugged Extremely Compact Housing
- All P25 Network Interfaces available

## **P25** Interoperability solution

- Supports IP/H.F. & Satellite Backhauls
- Interfaces with FSI (BAHA)+CSSI+ISSI (Phase One &Two)

## **Benefits to Public Safety**

 Deployable P25 Repeater for Emergency Communications







www.etherstack.com

# New P25 PDR8000® Rackmount Repeater & DFSI Option



## What is New

- New form factor for field proven PDR8000<sup>®</sup> Suitcase
- VHF, UHF & 800 MHz Bands
- Optional 50 Watt Amplifier

## **P25** Interoperability solution

- Wireline Ethernet IP connection to consoles supporting Digital Fixed Station Interface Protocol Version 1 (analog and digital)
- DFSI option available for both Rackmount & Suitcase models

## **Benefits to Public Safety**

Increased radio coverage range





Company Website http://www.futurecom.com

## **Technisonic TDFM-9000 Series Airborne P25 Radios**





- \* Tri-Band Modules support VHF /UHF/7-800
- \* Analog Capabilities include VHF-AM 118-136MHz, UHF 225-400MHz, Low Band 30-50
- \* Meets all Current P25 Analog, Digital and Trunking Standards, Phase I & II Compatible
- \* Encryption Protocols –AES,DES, DES-XL, DVP, DVP-XL, DVI, ADP. Multiple Encryption Keys
- \* US Narrow Band Mandate compliant in US
- \* Front Panel Programming capable
- \* Night Vision Google Compatible
- New Multi-Communications Port (MCP)
- Developed to address circumstances where additional temporary capabilities are needed such as handhelds, or where additional communication integrations are mission-critical such as Satellite



TDFM-9300 (4)All-Band P25 Transceivers (1) Traditional Aviation analog transceiver

Contact Technisonic at (905) 890-2113

Performance Driven





#### Key Benefits to Public Safety:

\* Allows access to Federal, State and Local LMR deployments and systems

Multiple Transceiver capability support critical Multi-Jurisdiction operations.

Radios are both FAA and FCC approved for use in aircraft.

Built In advanced features allow for aircraft to act as an airborne repeater, Simulcast station, or for Cross band repeat operations. These "advanced features" allow multiple agency's and departments to coordinate in Law Enforcement and EMS or Disaster situations, even in instances where land based infrastructure has been destroyed or rendered in-operational due to power disruptions or damage.



TDFM-9200 (2)All-Band P25 Transceivers (2) Traditional Aviation analog transceiver

Contact Technisonic at (905) 890-2113

## P25 New Product for IWCE 2021

RT-7000 Airborne Communications System







#### What makes it Unique

Flexible, Modular, Scalable –Panel Mount and Remote mount radios available- start with 3 and expand to 6 modules control via Remote Control display Unit or Panel display

- Software-defined radio (SDR) with touchscreen display
  - Display is NVIS compliant to MIL STD 3009 with a best-in-class man machine interface developed with public safety first responders and pilots
  - Resistive touchscreen glass interface that works with flight gloves or PPE.
  - No Recessed buttons to clean or clog, 1000 NIT display with 170° viewing angle
  - Integrated code plug search function, integration with Augmented reality or glass cockpit
- Modular design future proofs aviation assets with three available communications modules custom configurable to meet your mission needs - additional modules in development
  - **1. Wide Band Transceiver** 29.7- 960 MHz P25 Compliant Compact design, Continuous solution in ONE module. 118 -136 MHz ATC bands-TSO C169a Approval
  - 2. Motorola APX 8000 Module P25 Phase 1&2, Motorola feature sets, encryption, & all bands or a la carte.
  - 3. Search and Rescue 121.5 MHz, 243.00 MHz 156.8 MHz( Marine 16) & 156.525 MHz FSK ( DSC channel 70)
- Relay, simulcast, and relay/simulcast
- Built in connectivity for two (2) external handheld radios no external interface required

#### **P25 Interoperability solution**

- All P25 Bands Common Air Interface (CAI), Phase I, II Trunking
- 29.7 960 MHz Common Air Interface (CAI) AES Encryption
- P25 VHF 6W Min UHF 5W Min 700/800 MHz 3W Min

# InterTalk Cloud Dispatch



#### What is New

- Cloud Dispatch is a first-to-market dispatch solution in North America
- Offers a public-safety-grade dispatch console, empowered by the cloud
- Cloud Dispatch provides P25 connectivity in the field via mobile-connected devices

## **P25** Interoperability solution

- Connect Cloud Dispatch console to P25 via DFSI or CSSI/ISSI
- Convergence of analog radio, P25, LTE, call-taking capabilities, and more
- Allows user to extend their P25 network over Wifi, LTE, or satellite connections

## **Benefits to Public Safety**

- Empower your P25 system to create seamless communications across multiple devices
- Enhance situational awareness and operational intelligence
- Reduce hardware footprint and cost, making Cloud Dispatch affordable for virtually any agency









www.intertalksystems.com



# **CommandCentral AXS Console**

## **Dispatching for the Modern World**



#### **What is New**

- Works the Way You Do with the Next Generation Dispatch Experience
- Retain Your Focus with Cross Platform Integration Capabilities
- Connect to Multiple Communication Platforms Simultaneously
- Experience Pain Free Enhancements

#### **P25 Interoperability solution**

Seamless Multisystem (P25, MOTOTRBO, Analog, Firstnet)
 Access

- Improves Ease of Learning
- Eliminates New User Frustration and Burnout
- Improves Speed and Efficiency



# **CirrusCentral Management**

## **The Future of P25 System Management**

#### What is New

- Intuitive and streamlined user interfaces
- New and powerful tools to provide deeper insights into P25 system operations
- Built in secure government cloud environment located on US soil

## **P25 Interoperability solution**

- Ingests and analyzes data directly from P25 systems
- Ability to monitor and manage multiple zones for large scale P25 systems

- Get the right level of insight you need for informed decision making from a single dashboard view to detailed trends and usage data reports
- Quickly identify and troubleshoot issues with intuitive user interfaces and streamlined workflows
- Receive alerts, access your management tools and operate your system from anywhere, on any device







# **P25 LMR LTE Interworking Solution**



#### What is New

- Demonstrating IntelliLink™ Interworking Solution from Catalyst
- Standards Based Communications between P25 LMR and MCPTT on LTE Networks (FirstNet<sup>™</sup>, Verizon Push to Talk Responder, Southern Linc, etc.)
- Based on the MCPTT Standard, not "almost mission critical" as are existing LTE PTT solutions

## **P25** Interoperability solution

 Provides Interworking Communications between P25 subscribers on LMR Radios and SmartPhone users with MCPTT Application

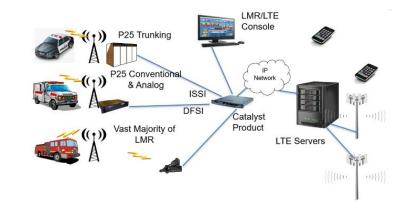
## **Benefits to Public Safety**

- Standards based solution for Critical Communications
- Enables transition to MCPTT on LTE for current P25 Systems





www.catcomtec.com
Booth 942 at IWCE 2021



# **DFSI Gateway**



#### What is New

#### **General Features**

- DFSI v1 and v2 compatibility
- Channel Change
- · Repeat On/Off
- Monitor (Squelch Bypass)
- Voter receiver and transmitter selected/enabled/disabled status and control

#### **Digital Features**

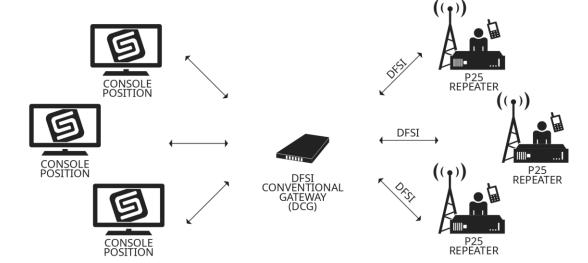
- Full-Rate AMBE voice encode/decode
- Group Calling
- Individual Calling
- Emergency Calling and Alarming
- Radio Check, Stun, Revive, Remote Listen, Call Alert, Status Querying, Status Messaging
- NAC Control
- DES/AES Encryption
- RX/TX Level Settings
- RX EQ

#### **P25** Interoperability solution

- Patch traffic between different base stations at talk-group level.
- Patch P25 base station with numerous other technologies when paired with the Mindshare Radio Interface (MRI)

#### **Analog Features**

- MDC-1200 Emergency alarm decode
- MDC-1200 ID encode/decode
- CTCSS/CDCSS control
- RX/TX Level Settings
- RX EQ



#### **Benefits to Public Safety**

- Migrates legacy analog infrastructure to P25
- Single gateway supports multi-vendor stations via DFSI standard
- Lower cost with more features than previous offering



www.css-mindshare.com

# P25 Digital and Analog Mixed-Mode Public Safety Systems from Zetron a Codan Company



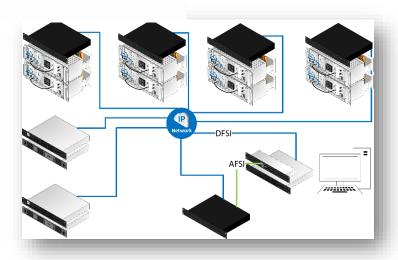
#### What is New

- Share regional LMR systems across multiple agencies, all with different requirements, but within the same jurisdiction
- Support Fire, Police and EMS using the same infrastructure
- Add coverage on-the-go using transportable extensions

## **P25 Interoperability solution**

- Each agency allowed use their preferred manufacturer's subscribers
- Support for P25 Standard interfaces to third-party applications and technology





- Provides reliable, secure, alwayson communications
- Built to support any agency's mission in any environment

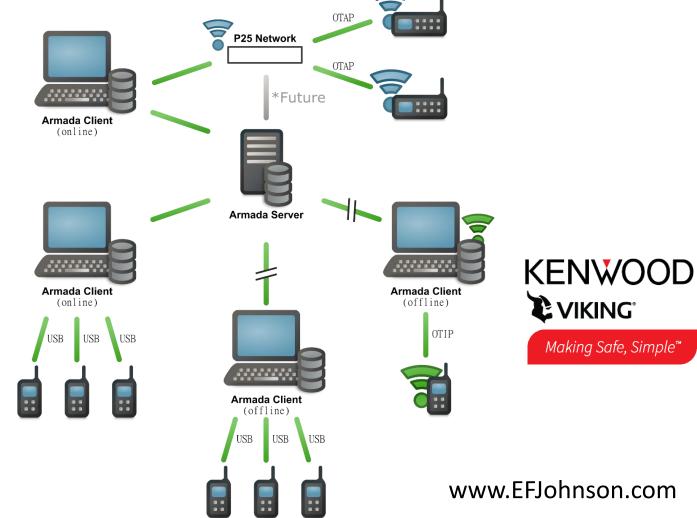
# **Viking Armada Server**

Distributed Programming Capability for Fleet Management



# NEW: Armada Server for Viking P25 public safety radios

- Allows multiple radio
  managers to share a
  common, central database.
- Offline mode allows radio managers to make updates that are synchronized when returning on-line.



## **STI-CO Industries IWCE Booth 1056**



#### What is New

- Tri-band Flexi-Whip antenna available in NMO roof, magnet, and glass mount
- Covert fin-style single and triband available for stealth missions

## **P25** Interoperability solution

 Seamless antenna connectivity to your P25 LMR providing reliable interoperability

- Durable flexi-whip material makes our antennas extremely robust
- Covert designs won't blow your cover



## **8800SX Radio Test Set**



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#### What is New

- Additional Auto-Test support for Harris and Motorola P25 radios
- Kenwood Viking and Tait P25 radios added to the Auto-Test family

## **P25 Interoperability solution**

- Phase 2 support
- Infrastructure testing with Wideband RF Power Sensor

## **Benefits to Public Safety**

- Ensure indoor and outdoor RF signal coverage with signal strength mapping solutions
- Portable RF testing of P25 subscribers and infrastructure





https://www.viavisolutions.com/enus/products/8800sx-digital-radio-test-set

# **3550R Radio Test System**



#### What is New

Updated remote command interface for enhanced scriptability

## **P25 Interoperability solution**

Infrastructure testing with Wideband RF Power Sensor

## **Benefits to Public Safety**

- Ensure indoor and outdoor RF signal coverage with signal strength mapping solutions
- Handheld RF testing of P25 subscribers and infrastructure





https://www.viavisolutions.com/en-us/products/3550r-touch-screen-radio-test-system

# **3920B Radio Test Platform**



25

#### What is New

- Additional Auto-Test support for Harris and Motorola P25 radios
- Kenwood Viking and Tait P25 radios added to the Auto-Test family

## **P25** Interoperability solution

- DES and AES encryption
- Trunking and Phase 2 support
- Vocoder

## **Benefits to Public Safety**

- Ensure outdoor RF signal coverage with signal strength mapping solutions
- Complete RF testing of P25 subscribers and infrastructure





https://www.viavisolutions.com/enus/products/3920b-series-analog-and-digitalradio-test-platform

# **R8200 New LMR Service Monitor with VNA**



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#### What is New

- Single Port Vector Network Analyzer: The only LMR test set to include a VNA
- Includes multiple general use options
  - Remote Front Panel
  - Extended Gen Port Output
  - Process Automation Toolkit ("PAT")

### **P25 Interoperability solution**

- P25 Phase 1 Conventional Test Option
- P25 Phase 1 Trunking Test Option
- P25 Phase 2 Test Option

## **Benefits to Public Safety**

- Perform comprehensive subscriber and network testing with a single instrument
- Save space by combining multiple instruments into one portable device







www.astronics.com/lmr

# In-Building Critical Communications Network Testing Solutions



#### What is New

- Commissioning tests for in-building radio systems
- SeeHawk™ Central cloud reporting and automation platform streamlines testing and data sharing

## **P25 Interoperability solution**

- P25: RSSI, SINR, Frame BER, OOS BER, Phase detection
- Multi-technology: LTE/FirstNet, DMR, TETRA, 5G, CBRS
- Fast and cost-effective radio tests to obtain building occupancy permit
- Grid test based on NFPA, IFC, and AHJ regulations
- Automatic report generation for submission

## **Benefits to Public Safety**

- Ensure indoor communications for first responders
- Makes adopting and enforcing requirements realistic
- Track buildings in a centralized, secure online platform





https://www.pctel.com/ptig

**Booth # 252** 

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# Valid8 P25 ISSI/CSSI Conformance Testing



#### What is New

- Multiple Form Factors
- Test Consoles or RFSS on CSSI and ISSI
- Multiple Test Options (Lab, VPN)

## **P25 Interoperability Solution**

 Use Valid8's Pre-Canned Test Scenarios to Ensure Interoperability with Other Vendor Devices

## **Benefits to Public Safety**

- Real World Testing with Multiple form factors
- Flexibility to Customize Test Scenarios
- Upgradable to MCX, NG911, P25 Cyber-Security Testing Suites















https://www.valid8.com/datasheets/p25-issi-cssi-conformance



## Booth 851



# **PX-900 Portable Instrument**

#### What is New

 PX-900 is a portable radio waveform analyzer that enables organizations to identify two-way radios in need of service in the field

## **P25 Interoperability Solution**

- Conventional (Now) and Trunked (Early 2022)
- VHF, UHF and 700/800/900 MHz

- It measures a radio's alignment and operating characteristics, Touch-Free,
   Over-the-Air in real-time, without user intervention
- Generates reports allowing the user to identify radios requiring service and validate the accuracy of the other radios
- A proactive radio maintenance tool that assures operational readiness





## **ISSI/CSSI Interoperability Testing**

#### What is New

- P25CAP ISSI and CSSI Interoperability Field Testing by an ANAB, DHS & P25CAP recognized test lab
- The RFFS/ISSI under test, RFSS supporting the test and test Engineer all in separate locations
- CTL Test Engineer directs, observes and records all test results via VPN & Microsoft Teams
- Detailed test reports produced to complete SDOC & STR

## **P25 Interoperability solution**

 P25CAP Compliant ISSI & CSSI equipment listed on DHS Grant Eligible list

## **Benefits to Public Safety**

- Procurement Assurance of ISSI/CSSI P25CAP compliance
- Field Testing Compliance of Agency-owned ISSI/CSSI already installed





Chris Lougee LMR Industry Business Development Compliance Testing LLC 1724 S. Nevada Way Mesa, AZ 85204

206-790-0790 Cell ChrisL@compliancetesting.com www.ComplianceTesting.com

# **P25 Enhanced Vocoder Software**



#### What is New

- Licensing for standard and custom processors
- Optional SIMD Libraries available
- Available for various OS's

## **P25 Interoperability Solution**

- Enhanced Dual-Rate Vocoder
- Rate conversion available for Full-Rate and Half-Rate

- Meets latest P25 requirements for voice quality
- Universal standard for interoperability and assured quality



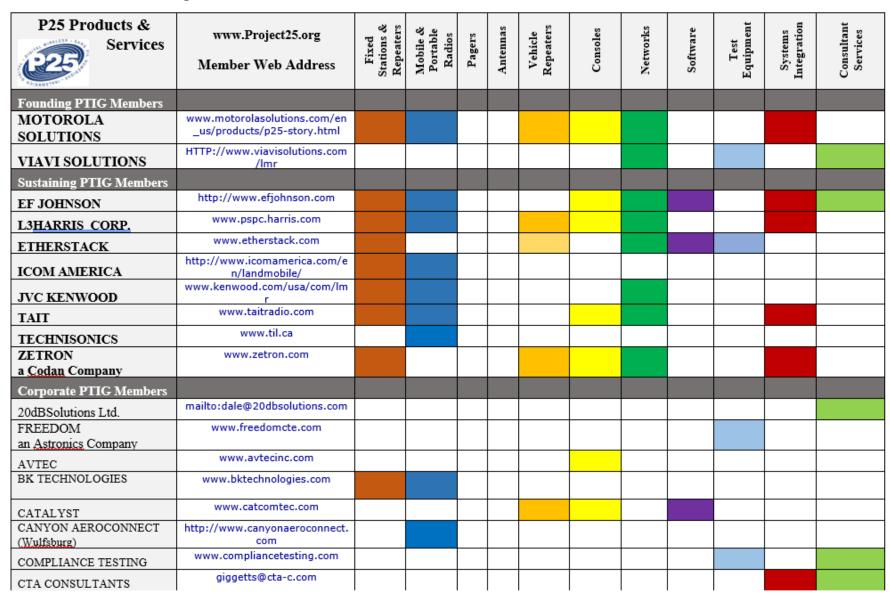






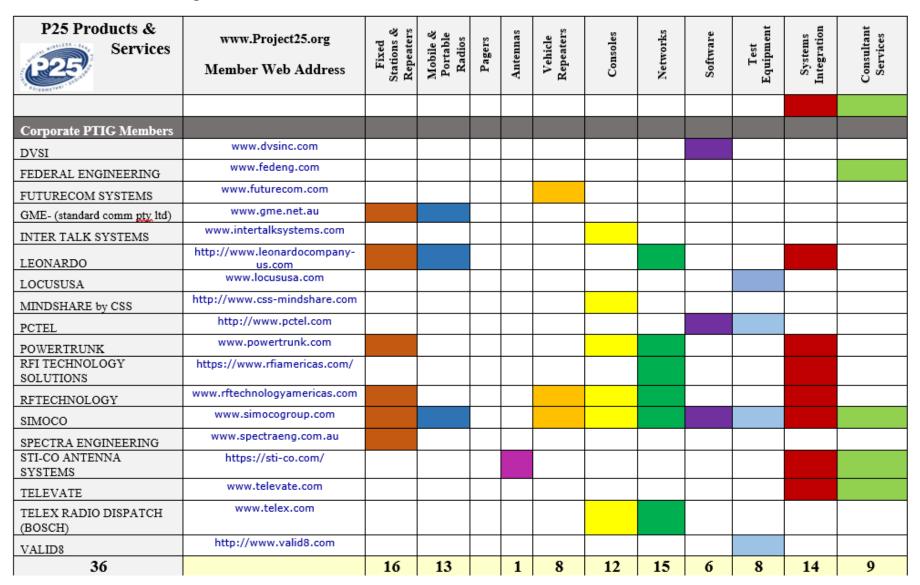


## **Project 25 Products and Services Available**





## **Project 25 Products and Services Available**





## **P25 New Product Trends**



- P25 LMR Interoperability with LTE Broadband Data
  - Multi mode P25/LTE Portable radios
  - Mobile P25 radio with Wi-Fi and LTE connectivity
  - New P25 Consoles connect P25 and LTE technologies
- Voice recording in radios
- Scalable, Configurable P25 Airborne Radios
- New products are P25 Phase 1 and Phase 2 capable

## **P25 New Product Trends**



- Deployable, mixed-mode, P25 repeaters for Emergency Ops
- P25 Antenna Site Monitoring
- "Over the Air" radio maintenance for P25 Systems
- "Cloud based" Asset management for P25 Systems
- "Cloud based" Dispatch in the field
- New P25 Location Services
- P25 enhanced Vocoder Software





www.project25.org