

ICOM

GOVERNMENT & SYSTEMS



What is P25 ?



A standard for the manufacturing
of interoperable digital two-way
wireless communications products



P25 is...

- Developed in North America
- End user driven
 - State, local and federal representatives
 - Telecommunications Industry Association (TIA)



P25 is...

- LMR Industry follows their direction
- Gaining worldwide acceptance
 - Public safety
 - Security
 - Public service
 - Commercial applications



TIA Mobile and Personal Private Radio Standards Committee (TR-8)

- P25 standards are administered by the Telecommunications Industry Association (TIA)
- P25 Radio equipment must...
 - Demonstrate compliance with P25 standard
 - Meet the needs of public safety
 - Interoperate with other P25 equipment



TIA Mobile and Personal Private Radio Standards Committee (TR-8) (cont'd)

- Users on different systems can talk via direct radio contact
- The P25 standard was created by and for public safety professionals



Benefits of P25

- Allow effective, efficient, and reliable intra-agency and interagency communications
 - ... so organizations can easily implement interoperable and seamless joint communication in both routine and emergency circumstances.
- Ensure competition in system life cycle procurements
 - ... so agencies can choose from multiple vendors and products, ultimately saving money and gaining the freedom to select from the widest range of equipment and features.



Benefits of P25 (cont'd)

- Provide user-friendly equipment ...
 - so users can take full advantage of their radios' lifesaving capabilities on the job – even under adverse conditions – with minimal training.
- Improve radio spectrum efficiency
 - ... so networks will have enough capacity to handle calls and allow room for growth, even in areas where the spectrum is crowded and it's difficult for agencies to obtain licenses for additional radio frequencies.



P25 Compliance

- Common Air Interface (CAI)
 - Specifies how information is coded, transmitted and received over the air
 - Enables users to interoperate and communicate digitally across networks, agencies, and vendors
- Improved Multi-Band Excitation (IMBE) vocoder
 - Converts speech into a digital bit stream
 - Test panels judged IMBE as the coding scheme most successful at making male and female voices audible against background noises such as moving vehicles, sirens, gunshots, and traffic noise – the conditions of public safety use



P25 Compliance (cont'd)

- Multi-vendor interoperability for ...
 - Trunking
 - Encryption
 - OTAR (over-the-air rekeying), to name a few
- System interfaces
 - Host computers
 - Data terminals
 - Public switched telephone network (PSTN)



P25 Future

- There are two phases of P25 development:
 - Phase 1 is completed.
 - It specifies a 12.5 kHz bandwidth.
- Phase 2 is in development.
 - 6.25 kHz equivalent bandwidth
 - Better spectrum efficiency
 - 2 slot TDMA selected
 - 6.25 kHz FDMA being considered