Critical communications technology from 1G to 5G

From simple analogue voice to broadband internet everywhere, each generation of mobile technology has given users a new world of opportunities.

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First generation radio networks offer basic voice services based on analogue technology. The concept of channels is central to these solutions. The channels are usually open to eavesdropping and offer limited capacity.

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Digital radio networks such as TETRA and Tetrapol are designed for voice and narrowband data, with group communication functionality built into the core system. Trunked systems and digital standards make them suitable for an extremely large number of users over huge areas. They are safe from eavesdropping and Direct Mode Operation (DMO) makes it possible for devices to communicate without a network.

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3rd generation wireless networks are the first mobile broadband networks introduced to consumers. They are designed for voice and have a few data-based features such as text and multimedia messages.



4th generation wireless networks are based on IP protocols (LTE). These networks are designed for data and deliver the first true mobile broadband services.

5G

5th generation wireless networks are 1000 times faster than 4G. They can deliver cutting edge social networking services and hologram transmission. Group communications are delivered as an app, and 3GPP standards help deliver mission-critical broadband services for public safety and other demanding professionals. Proximity Services are a type of DMO, but the output power of 5G devices cannot guarantee extensive range for device-to-device communication.

