

UTILITIES

Critical Infrastructure Industries (CII) Like Utilities Depend on Secure, Reliable Communications to Deliver Services

Reliability is a hallmark of the utility industry, so it is paramount that voice and data services are supported by a secure and reliable wireless communications network. The reliable, continuous delivery of electricity and water influences our nation's economy and personal well-being. To ensure that the infrastructure delivering these services stays in top working order every hour of every day, utilities need wireless communications systems to do the same.

Any disruption of or interference to communications could

threaten the safety of utility workers as well as hinder the reliable delivery of electricity and clean water to consumers. The utility industry has long relied on communications technologies to improve revenue measurement efficiency and to ensure the safety and reliability of transmission and distribution networks. Utilities need communications solution that can enable the same efficiencies and monitoring capabilities in remote areas that cannot be cost-effectively covered using present communications approaches.

Space Data's Spectrum network can fulfill critical communication needs in several utility use cases, such as:

✓ Field Area Networks (FANs) for Grid Modernization

FANs connect people, processes and devices to smart utility networks, supporting a variety of utility applications used to optimize grid performance and operations including distribution automation (DA), remote asset management, smart metering, and remote workforce automation. The FAN also serves as a foundation for future applications such as distributed power generation and energy storage, electric vehicle (EV) charging, and microgrids.

✓ Pole-top Equipment Monitoring

A remote terminal unit (RTU) is a microprocessor-controlled electronic device that interfaces objects in the physical world to a Supervisory Control and Data Acquisition (SCADA) system by transmitting telemetry data to a master system, and by using messages from the master supervisory system to control connected objects. Space Data has the ability to provide a cost-effective way to make the business case for the deployment of RTUs to monitor pole-top equipment such as reclosure switches, capacitor banks and voltage regulators.

✓ (AMI) in Rural & Remote Areas

Traditional wireless networks cannot effectively cover remote areas cost effectively due to the high cost of infrastructure or the ability to obtain licensed spectrum. Space Data has a solution for both of these challenges. Using the SkySite® Network, Space Data has the ability to provide a data communications link to any meter, no matter where it's located. Additionally, Space Data can sell or lease licensed spectrum to the utility.

✓ Land Mobile Radio (LMR)

LMR standards bodies have incorporated utility-specific requirements, while working closely with manufacturing communities to define the standards. Land Mobile Radio systems are terrestrially based professional push to talk wireless communications systems commonly used for critical communications like utilities. LMR systems typically consist of handheld portable radios, vehicle mounted mobile radios, fixed base stations and repeaters, and network infrastructure.



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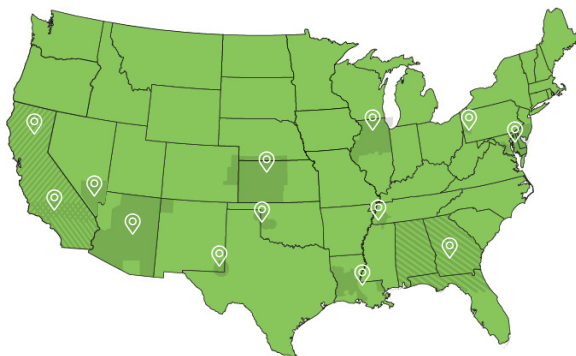
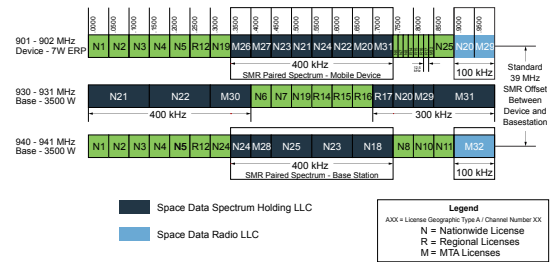
Smart Networks for Smart Communities

Smart Communities, Smart Grids, Smart Meters, and Smart Homes require more information and more real-time communication than ever before. These Smart Networks need the ability to transmit and back-haul more data than ever before to support real-time communications. Robust and scalable networks require licensed spectrum that can be deployed to meet the needs of today, while supporting future demands for more smart, connected products and services.

Electric utilities use smart networks for distribution management, which keep local distribution grids balanced as more distributed energy resources such as rooftop solar are introduced to the system. Water utilities are beginning to utilize smart networks to find leaks in the system and measure each drop of potable water and wastewater. Without these resilient Smart Networks, transitioning to Smart Communities will be impossible.

Space Data Spectrum Solutions Feature:

- ✓ **Standards:** Narrowband Personal Communications Service (NPCS) is Part 24 governed and has total flexible use
- ✓ **Security:** Our private networks are protected against potential cyberattack by complying with, and often exceeding, federal security requirements
- ✓ **Resiliency:** Network resiliency is not only critical when it comes to cybersecurity and storm response and restoration, but also for daily reliability as well
- ✓ **Scalability:** Our clients can partition their service area by county and/or coordinates, so you acquire just the spectrum you need, exactly where you operate



Many utilities and oil & gas operators have purchased or leased our NPCS 900 MHz spectrum assets to fulfill their needs such as grid modernization, SCADA, AMI, DA, and other applications associated with critical infrastructure.

NPCS licenses are fully built-out and continually operate nationwide:

- ✓ 930 and 940 MHz licenses allow high power as they can be operated up to 3500 W ERP
- ✓ 901 MHz licenses are device band and have a 7W ERP limit based on 12.5 kHz spacing
- ✓ You own call signs when licenses are transferred, and the asset can go into your rate base

At Space Data, we have a history of helping to build utility-grade Smart Networks that meet the stringent reliability expectations using licensed communication technologies.

Put the Space Data utility communications experience to work for all your spectrum and wireless network needs.

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