



# COMMUNICATION SYSTEMS

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Today's communications landscape is a reflection of increasingly complex FCC licensing issues and aging infrastructures with high expenses to bring them up to date. And in recent years, there has become an increasing need for communications interoperability with emergency and law enforcement first-responders who are spending more of their precious time dealing with communications problems than responding to incidents.

NYSTEC knows that communication systems are essential to government operations. We understand that the prompt delivery of government services, the lawful protection of people and property, and the day-to-day interaction of citizens with different levels of government all depend on the rapid and reliable flow of information. NYSTEC has the specialized expertise to solve communications problems and provide a wide variety of systems from large-scale wireless networks to practical voice and data solutions.

## NYSTEC HAS PROVIDED COMMUNICATION SERVICES TO: \_\_\_\_\_

- City of New York
- County of Livingston, New York
- County of Saratoga, New York
- Metropolitan Transportation Authority
- New York State Department of Transportation
- New York State Office for Technology
- Many more New York State, New York City and local government entities

**Radio System Evaluation** – Radio communications problems can have tragic consequences, especially in the public safety and public service realms. NYSTEC possesses an in-depth knowledge of private and public sector radio operations, regulations, and technology. NYSTEC evaluates the performance of any land-mobile radio or mobile broadband system and suggests economical solutions to communications problems. Evaluation services include analyzing the performance of the current system, determining voice and data capacity, evaluating and modeling radio coverage (both outdoor and in-building), conducting frequency licensing and regulatory review, and recommending changes for optimizing your current technology or moving to a new system.

**Operations Planning** – Public safety operations are complex and sophisticated affairs and are becoming more so. NYSTEC has employees who have worked in the public safety sector



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and understand the real-world needs of first responders. NYSTEC works with its clients on the needs of their communications and dispatch centers, fleet planning for trunked radio systems, developing interoperability plans, and training for new systems.



**Wireless Network and Site Assessments** – NYSTEC engineers have the equipment and know-how to perform in-depth field reviews of wireless networks. These assessments include analyzing both large and small radio systems, measuring and analyzing radio traffic and radio frequency propagation, evaluating channel congestion and interference, assessing infrastructure and siting, and planning infrastructure and transport interconnect.

**Communications Needs and Work Process Assessments** – The chief reason for modifying any communications system is to improve organizational efficiency and operational capability. Technology upgrades must be chosen carefully based on their suitability to organizational processes and goals. NYSTEC performs a thorough review of your organization's infrastructure and work processes before it explores relevant technology options. Process assessments include conducting surveys and interviews with staff and users, reviewing the organizational plans, modeling workflows, mapping communication linkages, and analyzing the infrastructure. NYSTEC can assist clients in developing requirements and specifications for upgrades or procurements.

**Telecommunications Infrastructure Review** – NYSTEC engineers assess your existing telecommunications system, including customer premise equipment, telephony, digital communications, satellite, radio, outdoor telecommunications infrastructure, and multi-node telecom networks, and recommend solutions to improve your voice, data, video, and Internet connectivity. These reviews include analyzing telecommunication inventory, assessing system configuration, analyzing the external telecommunications infrastructure, and planning for the long-term.

**Spectrum Management and Regulatory Assistance** – NYSTEC engineers possess extensive experience working with federal and international regulations on frequency licensing and helping clients manage the spectrum for their wireless communications systems. Our team works with clients to ensure their systems are compliant with current regulations, work through government processes to acquire the needed licenses, and assist our clients with managing their licenses to stay compliant. NYSTEC has sophisticated tools to perform frequency searches, interference and propagation analyses, and generating license applications as well as visualization tools, such as GIS (Geographic Information Systems) to show the results.

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