



DRONE TECHNOLOGY TAKING TOWER INSPECTION TO A NEW LEVEL

Neel-Schaffer, in partnership with Talon Aerolytics, is using drone technology to capture engineering data on elevated structures such as cell towers.

Working with the wireless unit of C Spire, a Mississippi-based diversified telecommunications and technology services company, the team is performing inspections and site audits, capturing high-resolution imagery of tower conditions and installation information that could previously only be seen by a tower-climbing crew.

The use of these unmanned aerial vehicles provides a bird's eye view of the structures and all equipment mounted to the towers, making minute structural or installation issues visible without having to climb the tower. This technology offers major advancements in the accessibility of up-close, 360-degree visual information that engineers need to evaluate the condition of the towers, observe tower modifications, and design solutions.

In teaming with Talon Aerolytics, Neel-Schaffer's trained engineers and technicians are able to support Talon's pilots to capture the information needed on the tower. The combined team also captures ground data for developing construction drawings and documenting as-built conditions. The high-resolution imagery allows Neel-Schaffer's engineers to perform more accurate structural analyses for towers and antenna mounts and design tower modifications. This collaboration has enhanced the usability of the data for engineering purposes.





Talon Aerolytics, a national leader in drone and data capture technology, uses military grade drones, such as the Aeryon Sky Ranger, in combination with other readily available equipment to verify existing antenna azimuths, downtilts, rad centers, and line of sight. This information is critical in designing and optimizing 4G networks. The data and video captured from this work is housed in Talon's Collaborative Content Management System, a Cloud-based secure database that clients and users can view.

The Neel-Schaffer/Talon team has flown over 200 towers in C Spire's network, performing engineering site audits, construction closeouts, line-of-sight tests, infrared imagery, and quality audits.

C Spire's team of radio-frequency engineers, operations and construction managers, and real estate specialists are already using the data captured to enhance network performance and to safely and efficiently add new equipment that will bring 4G and even 5G technologies on line.

As the Neel-Schaffer/Talon team continues to perform these audits on C Spire's network in Mississippi, the team is expanding its efforts into other infrastructure such as roadway and bridge inspections.

