Communication Tower Inspections

Communication towers are generally tall and complex structures that require a unique and highly specialist approach to inspection. With modern technology, these towers can now be inspected ‘remotely’ using both unmanned aerial vehicles (UAVs) and ground-based gigapixel camera systems.

THE Applus+ SOLUTION

At Applus+, we have developed our own unique ground- and air-based capture method that allows us to draw on the best imagery provided by UAV and ground-based technologies to offer the most comprehensive and effective way of photographing and inspecting communication towers.

The Applus+ inspection methodology has been extensively tried and tested over the last eight years. We use UAV systems to capture top-down and horizontal viewpoints. These perspectives are only obtainable from the air and we use 40 to 50 megapixel cameras to ensure maximum resolution is achieved. Applus+ then combines this data with extremely powerful gigapixel camera technology, taking hundreds of consecutive images which we then seamlessly stitch together to produce ultra-high-resolution images of the entire communication tower from top to bottom.

We can also utilise thermal imaging cameras to identify high-resistance joints and potential failure points.

Applus+ also provides a comprehensive and easy-to-use data-management system that allows a client to navigate the large volumes of data captured easily and efficiently. This data-management system can be tailored to the client’s specific needs and requirements.

By utilising state-of-the-art electromagnetically shielded UAV systems, we can fly around communication towers without interference and in complete safety.
Target customers

The remote-access inspection of communication towers is ideal for pre-shutdown surveys to determine if there is a need for personnel to manually inspect a tower, which involves higher risk.

The use of remote-access technologies in routine structural surveys also removes the need for personnel to climb the structure, allowing tower owners to reduce their risks.

Key customer benefits

This Applus+ service:

- provides the customer with massive cost-saving opportunities
- dramatically improves survey quality and resolution
- dramatically reduces the risk profile of such an inspection as no personnel are required to climb the structure
- provides a risk-free way of checking the true condition of a tower whose structural integrity is in question
- offers the ability to capture and document a structure in high resolution for future analysis and comparison, which is not the case with close visual inspections
- can be used anywhere in the world, including in remote locations such as offshore platforms, since the equipment and processes used are compact and easily transportable