Case Study

Amdocs Enterprise Drone-Aided Site Audits

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About the customer

This North American tier 1 service provider is one of the first companies in the world to launch commercial 5G for mobility, fixed wireless and mobile edge computing.

To provide a high-quality customer experience, this operator needed to develop capabilities to track its evolving network assets across various domains and generate audit reports accordingly. Such reports would enable monitoring of network activities, and be subsequently reused for pre-/post-construction, compliance, real estate, regulatory purposes, as well as to validate inventory with tower companies.

Previously, to obtain an accurate inventory, the operator relied on tower climbs, which were costly, dangerous and inefficient. They therefore sought safer, cost-efficient, more accurate, as well as environmentally-sustainable means to achieve these objectives.

The challenge

With a 12-month deadline, the operator needed to modify C-Band deployments in 17,000 towers. But due to the aggressive deployment of their 5G networks, this first required the towers to be audited and mount mapped. With a shortage of tower climbers making the deadline unfeasible, they were compelled to identify new ways to achieve their goals.

Our solution

Drone technology provides an efficient, safe and rapid way to audit and survey wireless infrastructure, mitigating the cost and human safety issues associated with inspections traditionally performed by two- to three-climber crews.

Amdocs Enterprise Drone-Aided Site Audits, powered by vHive software, was chosen for its ability to provide an advanced, safe, end-to-end service for maintaining communication towers. With 100% autonomous flights and standardized flight paths, it removes the human element both from determining the flight path pattern, as well as image collection.

During the course of the flight, high-resolution 2D imagery is captured and subsequently leveraged to generate a highly-accurate 3D digital twin (to within +/- 1/2 inch, +/- 1 degree azimuth). Amdocs engineers then analyze data from this image to generate reports detailing the types of equipment installed in the tower – information that is critical when performing engineering modifications.
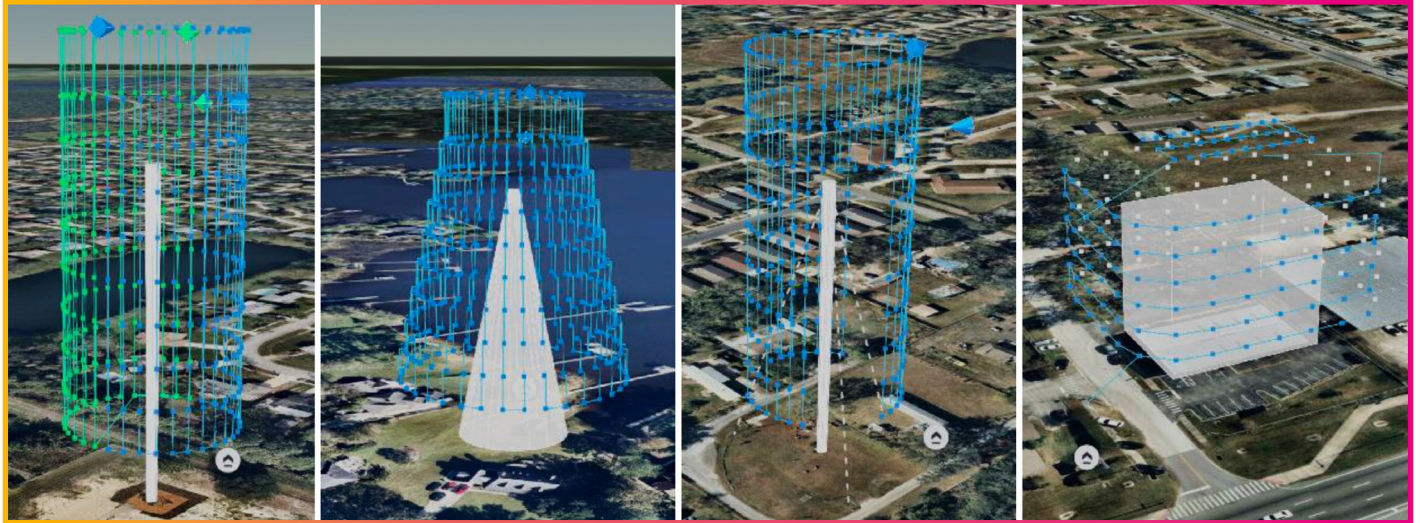
Autonomous flight options

Highly reliable and scalable, the service includes all the necessary hardware and software to perform vital tasks, including field collection, back-office engineering and customized data delivery into a data repository.

The service was provided as a turnkey operation, and included trained pilots equipped with drones, logistics, FAA & tower owner approvals, field data collection, as well as back-office engineers to analyze data and create reports. Working in collaboration with the customer and their vendors, Amdocs enabled the operator's chosen engineers to implement the necessary modifications prior to the actual deployment. Ultimately, this led to highly accelerated C-band deployments and the launch of 5G to air in half the time normally taken by traditional methods.

Results

- Faster delivery: traditional methods limit the number of surveys to 1-2 per day. Drones can perform 3-5 surveys per day

- Reduced costs and safety: Traditional mount mapping requires 2-3 human crews for data collection; crane and boom lifts are sometimes required due to safety conditions that prevent technicians from climbing a structure

- Accurate inventory: with an accurate 3D digital twin, it is cost-effective to maintain accurate inventory records and identify if new equipment can be added without an additional climb

- Data longevity from digital twin: once a drone flight has been executed, the data can be reused by network teams whenever needed

- More environmentally-sustainable: lower carbon footprint through reduced truck rolls

- Automated: More reliable and accurate data collection

Why Amdocs

Amdocs is the leading carrier-certified vendor to perform multi-use cases site surveys utilizing autonomous Unmanned Aircraft Systems (UAS). With vHive software providing capabilities to collect a standardized and consistent high-quality product, our experienced pilots and engineers subsequently capture the site via advanced imagery and analyze the data to provide the end-to-end view that engineers need to perform modifications at a macro site.

Partner with us to benefit from our proven tools, processes and time-tested methods, as well as our customized services for all major network equipment providers and technologies – and be confident in your ability to meet your customer experience goals.

For more information on Amdocs Enterprise Drone-Aided Site Audits, contact
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Amdocs helps those who build the future to make it amazing. With our market-leading portfolio of software products and services, we unlock our customers' innovative potential, empowering them to provide next-generation communication and media experiences for both the individual end user and large enterprise customers. Our 31,000 employees around the globe are here to accelerate service providers' migration to the cloud, enable them to differentiate in the 5G era, and digitalize and automate their operations.

Listed on the NASDAQ Global Select Market, Amdocs had revenue of $4.3 billion in fiscal 2021.

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