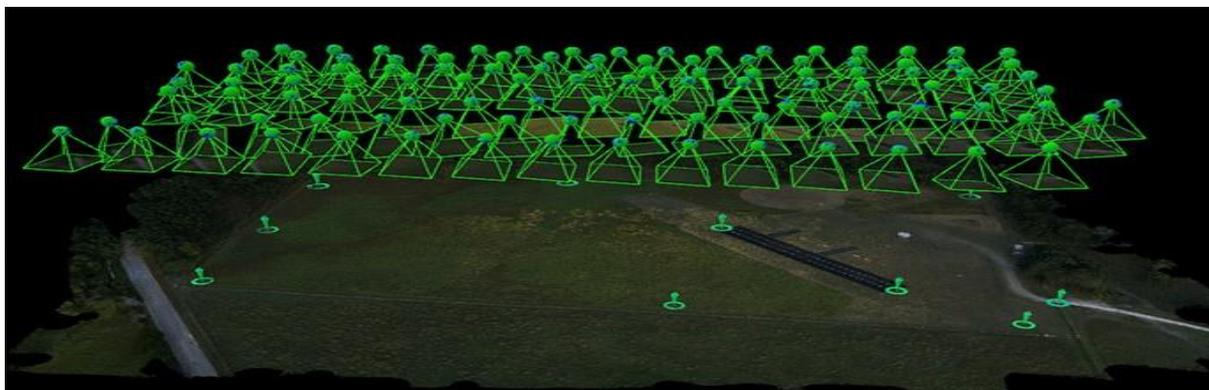# Flying high with drone technology: why 4site loves drones!

Drones (also referred to as UAVs) are proving invaluable not only to the wireless and fibre networks design teams at 4site but also to their colleagues building the resulting networks onsite. For the former, the bird's eye view can quickly highlight a solution that wasn't obvious from ground level and for the latter the contribution to safety by knowing what hazards may lie ahead - for instance assessing the condition of a rooftop prior to access - is significant.

Drones are an essential tool in the survey arsenal.

4site see drones as an essential tool in conducting surveys.   They equip the survey teams with a new view which would either be otherwise unachievable or at best quite costly and take longer to generate. The lay of the land, potential challenges, best access routes, valuable data, potential planning issues are all relayed accurately and efficiently. During a survey the drone can be deployed easily, its height and camera angles can be adjusted remotely. Within minutes a 360° panoramic video, a plan view of the site and its access route can be captured. Feed from the video can be processed and output to reports for use by the design engineers back in the office. No need to hire MEWP (Mobile Elevated Work Platforms) or get permits to set up on roadsides, in forests or

other areas as needed. Indeed, deploying the drone is less disruptive while presenting better information at lower cost. And video is just one output; the drone collects lots of valuable data that supporting software like Pix4D, for example, can convert into high definition maps and models delivering the specific information that makes design iteration faster and more responsive to the conditions reported.

Bird's eye views

John Lane, Senior Surveyor with 4site says *"The drone has been of great benefit so far. Aside from the obvious cost implications, like not having to hire a MEWP to carry out pan surveys, it has added a new dimension to our surveys. Views of sites which would have been impossible using traditional methods are now easily captured in a matter of minutes."*

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The optics for fibre.

Bringing high speed broadband to rural areas or areas not well served with communications infrastructure is a challenge and a focus for many telecoms operators. 4site is working on large fibre deployments providing critical design and planning services to these projects. When mapping out a route to connect populated areas into an existing main fibre trunk for example, drones are used to fly along predetermined routes across sections of farmland. Any potential obstacles – trees or overhead services – can be determined.

When designing brand new infrastructure builds Visual Impact (VI) surveys may be conducted and the drone is used to good effect to determine any potential visual impact issues that might arise for the planning department when dealing with sensitive sites for example (see Ring Fort example below). VI surveys can ensure potential issues are dealt with at design stage and the planning department doesn't run into unexpected objections. Getting the detail right at the survey stage is critical to saving costs, time and revisits at the build stage of fibre roll out programmes, and drones contribute significantly to getting that detail right.

Identifying obstacles

Be safe, be seen.

While there are many benefits to using drones 4site has recognised the potential for safety as being one of them. For inaccessible areas, the drone has highlighted issues on rooftops for example, where no safe means of access was present. It's a safe way to go to heights and get an accurate scan of what work may need to be undertaken as well as a good safety inspection tool to use in our auditing services.

Ring fort: ensuring the integrity of sensitive sites

Drone on!

Going forward there are developments in using drones to map areas using RTK GPS technology which will add to data collection capability and the accuracy of the data collected over wider distances.

Image processing developments will impact 4site's work in BIM (Building Information Modelling) allowing the drone output to enhance creation of BIM models of buildings, sites and even as built BIM models of towers.

4site are excited about what drone technology is bringing to how we design and build our networks. Alongside 4Survey – 4site's ARC Gis app developed with Esri Ireland, drones are seen as a critical enabler of quality and efficiency in design and planning of communications network. As John says *"It's certainly an exciting time to see the adoption of drone technology into so many differing applications. It's fun for us to look for ways to adapt that potential to our own ends".*

For more information on our services please contact sales@4sitenetworks.com

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