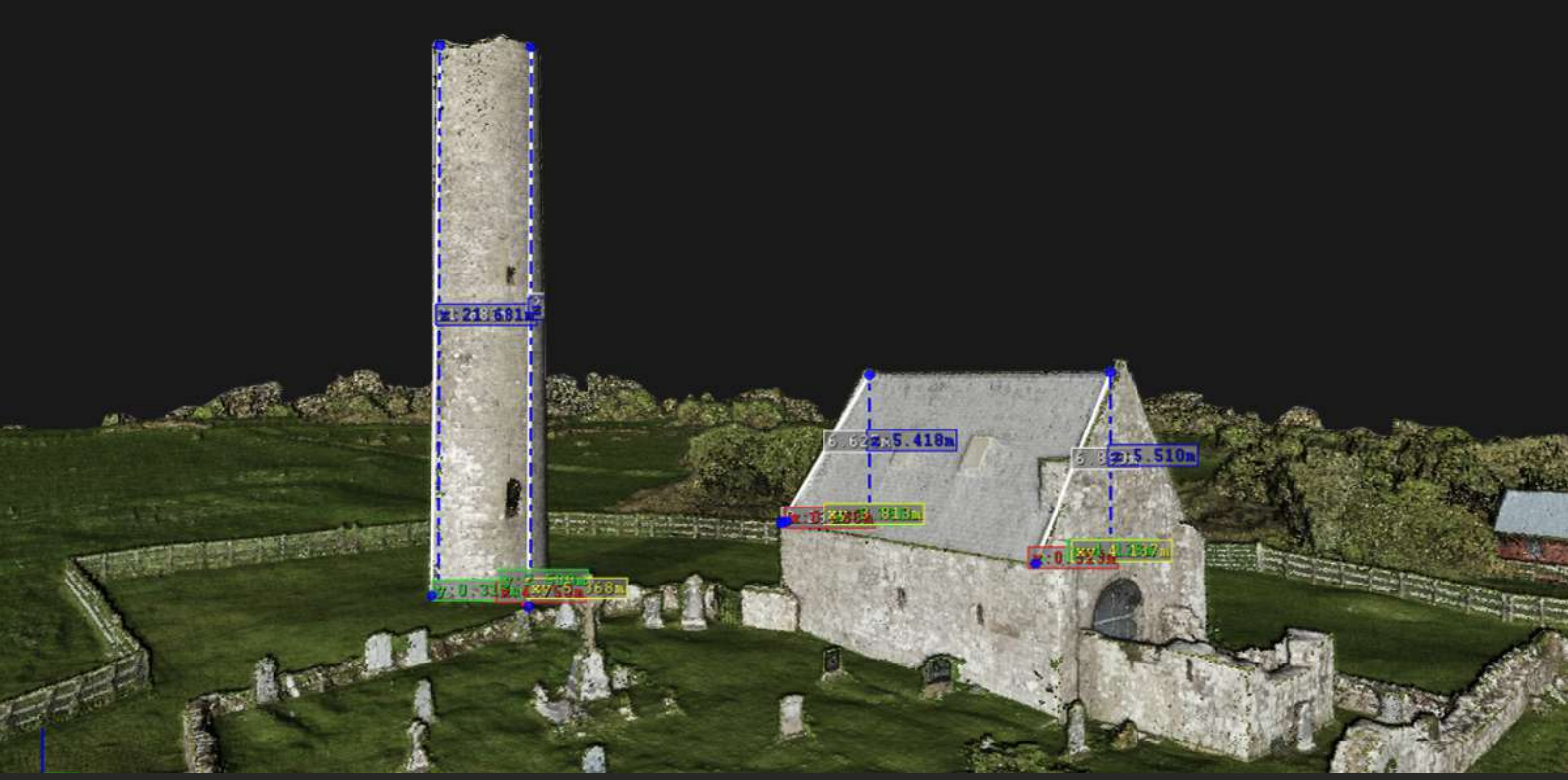


YellowScan | Designed to Innovate.

SUCCESS STORY

Archaeology

REMOTE SURVEYING

> *"Working with the Yellowscan support team allowed us to greatly improve our data acquisition and processing workflows. We have validated the Yellowscan Surveyor Ultra data by measuring against high quality terrestrial scanner data. This showed accuracies in x, y and z of +/-5cm and has allowed us to validate the quality of our data, which is critical to meeting our client requirements.*
>
> Fearghus Folye, CEO, GeoAerospace

GeoAerospace

Organisation: GeoAerospace
Website: www.geoaerospace.com
Country: Ireland

UAV USED
DJI M300

SOLUTION
Surveyor Ultra

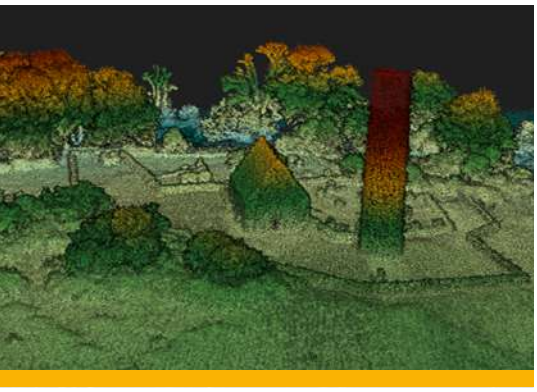
Business challenge.

GeoAerospace, an Irish geospatial Data-as-a-Service provider, was contracted to provide high density LiDAR and high resolution orthophotography maps of Holy Island, a historic monastery on an island in Lough Derg, Ireland. The final data would become part of an archaeological assessment of the monastery.

Gaining access for a survey team and associated equipment to survey the island was a challenge, so aerial surveys were preferred in this case. Using remote sensing drone technology reduced any requirement to set foot on the island and enabled the aerial survey to be comepleted safely from the mainland.

Solution.

Typically, this type of archaeological survey is carried out by 'boots on the ground' i.e., surveyors & engineers travelling to the island by boat and surveying the landscape and buildings using traditional methods. The project could have been done with photogrammetry alone, but a Digital Terrain Model was required to penetrate the vegetation and help identify any archaeological features under the canopy, so LiDAR was the preferred method for this site.



SUCCESS STORY

Results

You want to learn more about this success story ?

Scan this QR CODE

Acquisition.

The speed at which the Surveyor Ultra enables high quality data acquisition over inaccessible sites, allows the drone team to capture multiple sites in a single day. Historically, this type of survey work could take days to complete but with advanced aerial sensors like the Surveyor Ultra, time on site is significantly reduced.

In this case of this particular 50-hectare site, the drone team were on site for less than 2hrs between set up, data acquisition and shut down. Not only does this rapid acquisition enable companies increase operational efficiency, but it also allows public sites to remain open, or to reopen quickly should they have to close during the survey.

Mission parameters.

- **Flight altitude:** 70m AGL - Overlap: 50%
- **Swath width:** 40m
- **Number of flights:** 2
- **FOV:** 60-degree (30 degrees off Nadir)
- **Survey area:** 50ha (island)
- **Survey time:** 1hr 40mins on site (40mins LiDAR / 1hr RGB)
- **Planning:** 0.5 day planning (risk assessments/flight planning etc.)

Results.

To carry out a LiDAR survey of Holy Island (known as Inis Cealtra in Gaelic), Ireland. The minimum requirements were 8ppm and a 50cm DTM and DSM. GeoAerospace delivered 10cm DTM & DSM, point cloud with up to 250ppm and 2cm GSD orthophoto.

Digital Replica of Holy Island mission

Surveyor Ultra Benefits.

- 360° Field of View, ideal for vertical mapping
- Productivity solution optimized for VTOL fixed-wing
- Suitable for mobile mapping with Fly&Drive
- High point-density
- Turn-key: simple to operate and self-powered
- Can be mounted quickly on most UAV's

The Yellowscan Surveyor Ultra was purchased by Maynooth University as part of NATDaP, a Science Foundation Ireland funded Research Infrastructure programme (18/RI/5810).