



Connecting Cambridgeshire

sensat
case study

Ely, Cambridgeshire
United Kingdom

With **wsp**



Connecting Cambridgeshire In numbers

Size of the area:	16.4 km ²
Data points:	180 000 000
Data capture time:	48 hours
Data delivery time:	10 days
Images captured:	16 000

Network Rail and WSP use Sensat to save time and money in early stage infrastructure design.

Project brief:

To support early-stage design, Network Rail and WSP needed highly accurate survey data of a large complicated area composed of rail, road, greenfield and urban areas.

Problem:

For this project, a traditional topographic survey was expected

to take a painful five months to complete. It would involve a 12-week track access approval period, 4 weeks to capture the data and a further 4 weeks for processing.

Solution:

Utilising UAVs, Sensat quickly captured the 16.4 km² area site in 48 hours. Sensat's expert UAV capabilities and close relationship with the CAA removed the need for Network Rail track access approval. This meant the data was seamlessly captured, processed and quality assured in just 10 days. On top of this, WSP saw cost savings of up to 70% over using a more traditional survey method such as a total station or laser scanner.

The visualisations created from the UAV survey included a high-density

Above: 2D
Orthomosaic
hosted in mapp®

point cloud, DTM, orthomosaic, and 3D mesh. This was above and beyond the client's initial objectives for the survey. The data can be integrated with CAD and BIM to provide an incredibly detailed, versatile and collaborative digital environment in Sensat's visualisation platform, Mapp. Mapp also enabled the train mounted LiDAR data to be layered into digital twin which had proven accuracy of 1-3 mm, perfect for detailed design.

Conclusion:

The project's success shows how important it is for the rail industry to adopt new technology when solving problems. By utilising Sensat's specialist UAV capabilities, Network Rail along with WSP were able to expedite data capture for early-stage design at a fraction of the cost. ■

70%
cheaper

90%
faster

