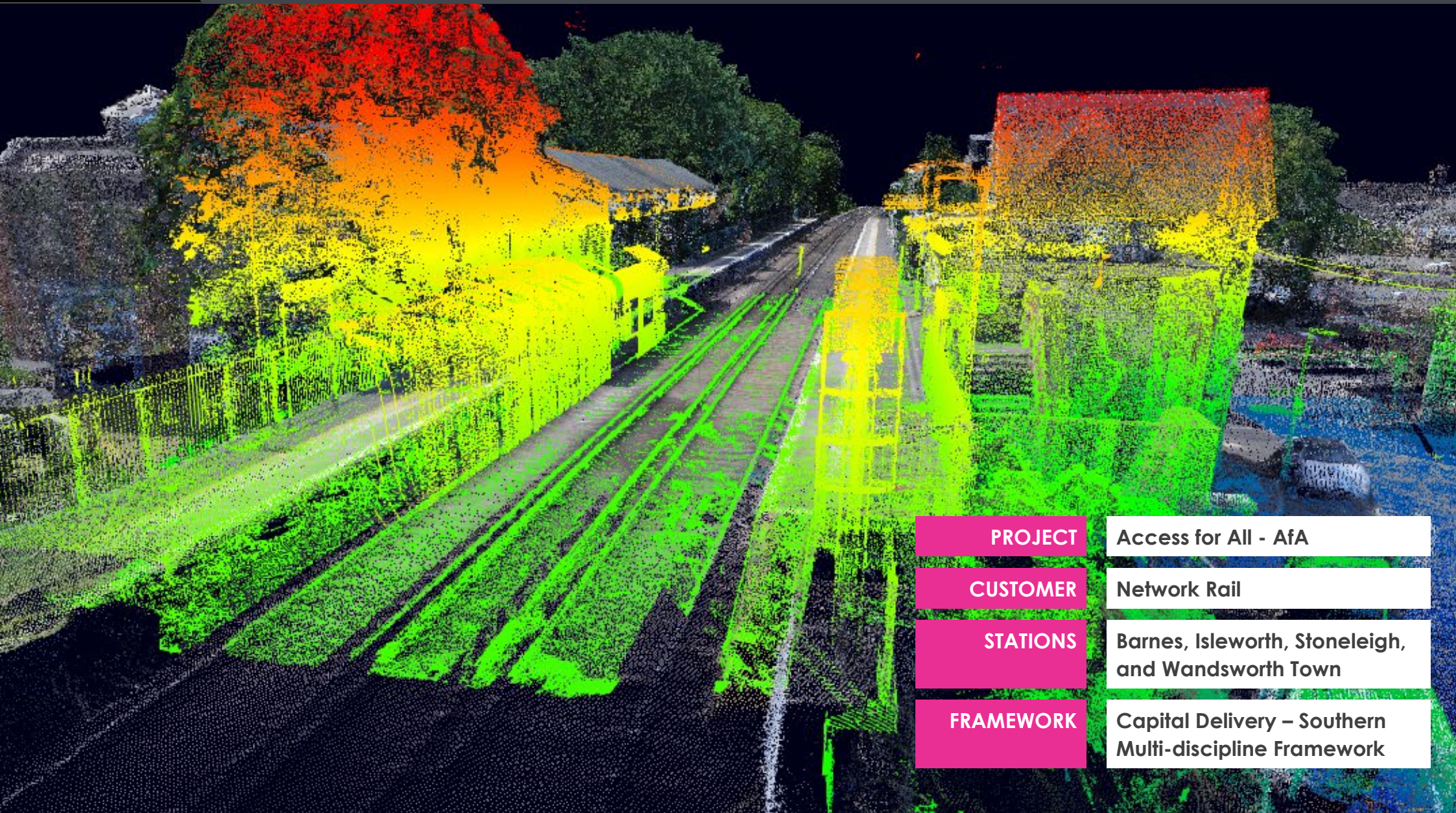




sensat

Rail 'AfA' – Drones survey 4 stations in 2 days



PROJECT

Access for All - AfA

CUSTOMER

Network Rail

STATIONS

Barnes, Isleworth, Stoneleigh, and Wandsworth Town

FRAMEWORK

Capital Delivery – Southern Multi-discipline Framework

Need

Retro-fitting lifts and ramps in stations to make rail transport fully accessible for everyone is a challenge. The design relies on accurate survey data to integrate the new structures into the existing station environment safely and efficiently.

Track access for traditional surveys can take months to arrange, so the team upgrading four London Stations, turned to Sensat's UAV (Unmanned Aerial Vehicle) technology using drones for a quick and safe solution with added benefits.

Solution

'Access for all' schemes on this route are designed and delivered through the integrated partnership of Network Rail, Osborne and Arcadis. An early workshop raised the idea to use UAV technology by specialists Sensat to produce a cloud point survey and 3D model for each station. This approach replicated our successful highways partnership with Sensat to digitally map the M25 and the A46 major project for Highways England.

It was determined that Sensat's UAV's or drones would only need two days to survey the four stations and their unique permissions to fly in London airspace and over the 'live' railway and highways would enable safe and efficient collection of data.

Outcome

By taking a different approach and applying emerging technologies there have been significant benefits for the scheme:

Less Time/More data

- Sensat mobilised within 1 week of receiving the order.
- Drones were fast, with 140,000m² of data collected from the four stations in just 2 days - 4 times quicker than a 'boots on the ground' survey.
- Able to map an area 70 times larger, which produced accurate 3D real world models to plan installations and improve stakeholder engagement.

Less Cost

- The data rich drone survey for all four stations totalled £7k versus £20k for a less comprehensive traditional survey.

- Drones eliminated possession management costs saving £10k.

Less Risk/Less Carbon

- Only two drone operators and a supervisor were on site de-risking the transmission of COVID-19.
- Track access was eliminated which de-risked train operator compensation and operational safety.
- Sensat's visualisation platform improved onboarding and enabled CRE's to work remotely reducing Covid risk and travel carbon emissions.

As well as the quantifiable benefits, the data has been exported into Sensat's 3D visualisation platform which is as simple to use as Google allowing easy sharing and use beyond the core team.

Follow up drone surveys can enable real time measurements for quicker decision making and contract administration.

Moving to the future, Network Rail now have a 3D cloud point model for new station enhancements which ultimately could feed into a 'digital twin' of the rail network to facilitate dynamic asset management and the benefits it can unleash.