Case Study

Bluesky LiDAR Keeps Runners on Track with Sub Metre Accurate Maps

Client:

Southdowns Orienteers is a large friendly orienteering club with around 300 members ranging in age from 1 to 80+. We have a range of abilities amongst our members, from absolute beginners to British Champions.

Industry:

Leisure

Product:

LiDAR

"Orienteering is a fast-paced sport that requires incredibly accurate mapping. To create such a map requires an immense amount of detail. The availability and quality of the Bluesky LiDAR has made the mapping process for orienteering faster, more accurate, easier to undertake and affordable."

Will Heap, Junior Team Manager

Summary:

Southdowns Orienteers is using Bluesky's data to create detailed navigational maps for participants. Captured using our cutting-edge Leica Terrain Mapper, Bluesky delivered highly accurate LiDAR data which has proved to be beneficial for orienteering as it can depict small depressions and pits in the landscape, changes in vegetation and otherwise unmapped paths and trails. By providing a reliable and accurate base map, the navigational skills of the competitor can be truly tested.

Challenge:

Until recently, orienteering basemaps were generally produced using aerial photography and ground surveys. The map needs to indicate the topography of the terrain with contour lines as well as forest density, water features, earthen banks and rock walls, ditches, fences and power lines, buildings, and many more features. Producing these maps is a time-consuming project. One issue has been how to improve contours where the ground cannot be seen directly from the sky, i.e. underneath tree canopy. The aim of orienteering is to navigate between these marked control points in the quickest time, by selecting the optimal route so detailed maps are essential.

Solution:

The Southdowns Orienteers needed a time-effective, cost-efficient way to produce reliable and intricate maps for its participants. Derived from Bluesky's LiDAR dataset, contours are automatically extracted; for orienteering purposes these are generally at 5 metre intervals and determine where successive checkpoints are located, including whether they are higher or lower from a previous point. As well as accurately identifying terrain features such as ponds, field edges, and earth walls, LiDAR is geo-referenced – its place on earth can be numerically plotted – which is essential for compass users.

Results:

LiDAR is becoming the preferred method of orienteering map production because it saves time and can produce contours under tree cover.

Using Bluesky's LiDAR dataset, Southdowns Orienteers can provide participants with accurate maps, rich in usable features enabling them to decipher the landscape and select the fastest route for competitions.

LiDAR Specification	
Resolution	16 - 100 PPM
Coverage	Selected cities across Great Britain
Accuracy XY	± 15cm rmse
Accuracy Z	± 10cm rmse
Formats	Include: ASCII Grid, ASCII XYZ, DXF Point, GeoTiff, LAS
Standard Projection	British National Grid

Get in touch today at **info@woolpert.com**