



Brochure

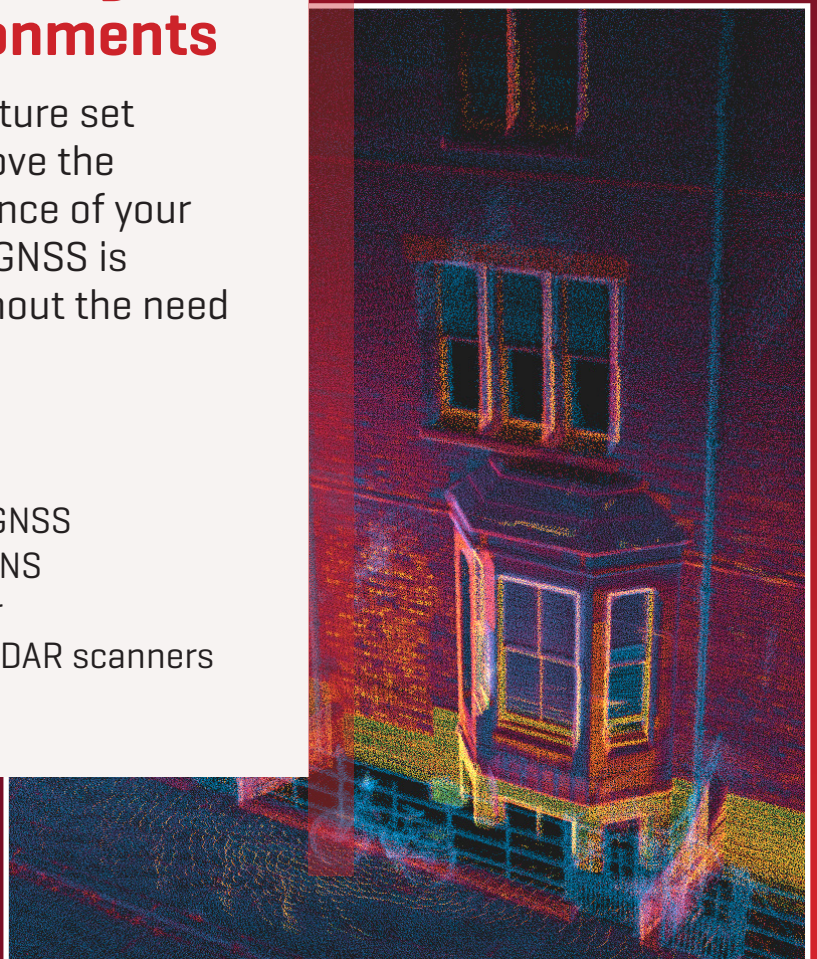
LiDAR Boost

Reliable and robust navigation in challenging environments

LiDAR Boost is an advanced feature set developed to significantly improve the real-time localisation performance of your OxTS navigation solution when GNSS is intermittent or unavailable, without the need for infrastructure.

Key Features

- + Accuracy of up to 0.03 m with no GNSS
- + Compatible with your OxTS GNSS/INS
- + Natively integrated into WayFinder
- + Compatible with a wide range of LiDAR scanners
- + Infrastructureless localisation



What is LiDAR Boost?

LiDAR Boost is a software tool that uses LiDAR odometry updates and map matching techniques to enable accurate and highly repeatable navigation in the absence of GNSS. LiDAR odometry updates are used to deliver centimetre-level localisation accuracy without GNSS, whereas map matching ensures absolute navigation repeatability.

Why choose LiDAR Boost?



Boost accuracy in challenging environments

LiDAR Boost enhances navigation by using 360° LiDAR data for velocity and position updates, ensuring accuracy during GNSS outages like tunnels or container yards.



Indoor Navigation

In environments where GNSS signal is nonexistent, LiDAR Boost can provide completely repeatable and highly accurate navigation data.



Infrastructureless solution

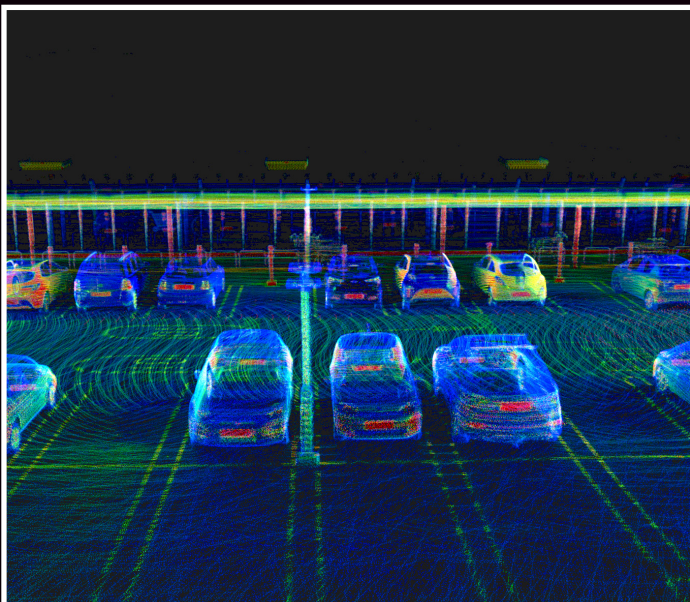
LiDAR Boost works without infrastructure, making it ideal for large-scale deployments or flexible temporary setups.



Highly effective, highly affordable

The precision of LiDAR Boost allows you to achieve your goals without having to invest in expensive fibre optic or ring laser inertial measurement units.

What can you do with LiDAR Boost?

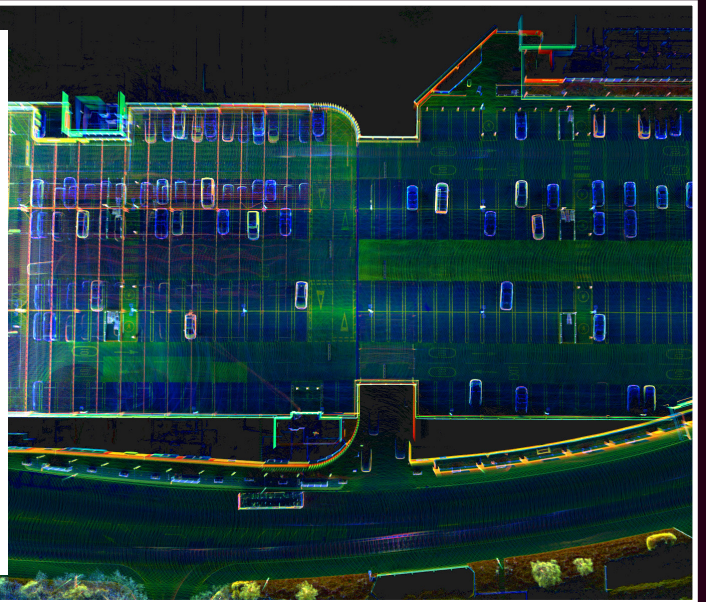


Open-road and indoor groundtruthing

LiDAR Boost enhances OxTS GNSS/INS performance for open-road groundtruthing, especially in urban areas, while also providing a powerful and flexible indoor testing solution.

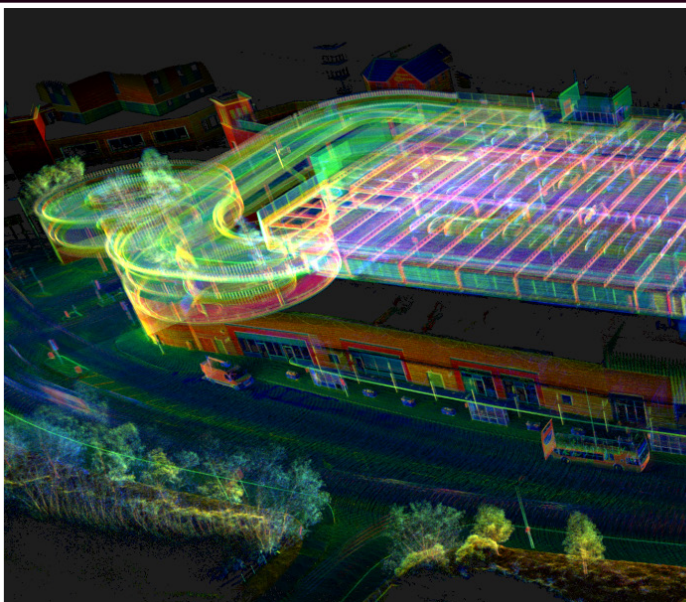
Autonomous Navigation

LiDAR Boost enables autonomous engineers to monitor high-accuracy localisation data in real-time, ensuring they have the insights they need, even in GNSS-denied environments.



Georeferencing

LiDAR Boost helps surveyors expand their Operational Design Domain (ODD), enabling accurate data collection in more areas, even without GNSS signal.

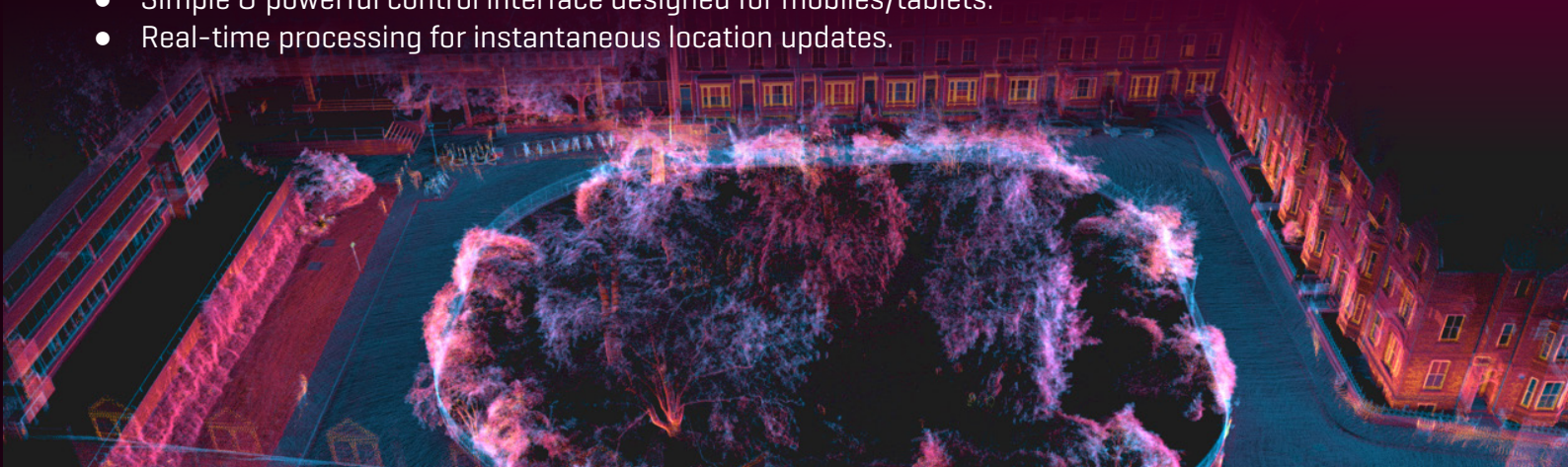


How can you get LiDAR Boost?

LiDAR Boost is integrated into OxTS WayFinder making it easy to integrate LiDAR aiding into your project.

WayFinder

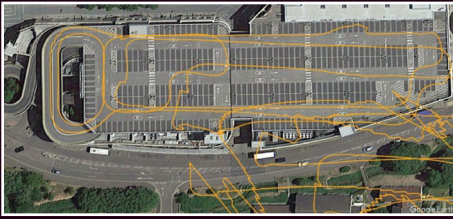
- Save time with pre-integrated sensors, and setup in under 30 minutes.
- Confidence in all environments, even when GNSS is absent or intermittent.
- Simple & powerful control interface designed for mobiles/tablets.
- Real-time processing for instantaneous location updates.



Example Data

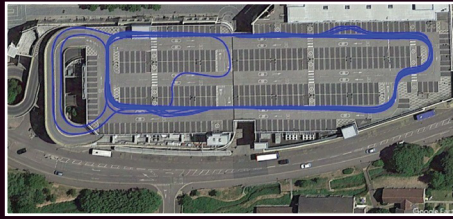
The data here was collected in a multi-storey car park. Example one uses position updates from GNSS only, whereas examples two and three add LiDAR odometry and map matching updates respectively. Ten laps of the route were recorded.

1. GNSS aided



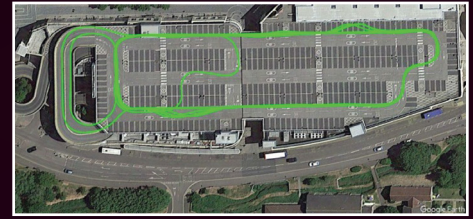
Measurement	
North	1 km+
East	1km+
Down	13.00 m
Heading	2.50°
Pitch	0.09°
Roll	0.13°

2. LiDAR inertial odometry (LIO) aided



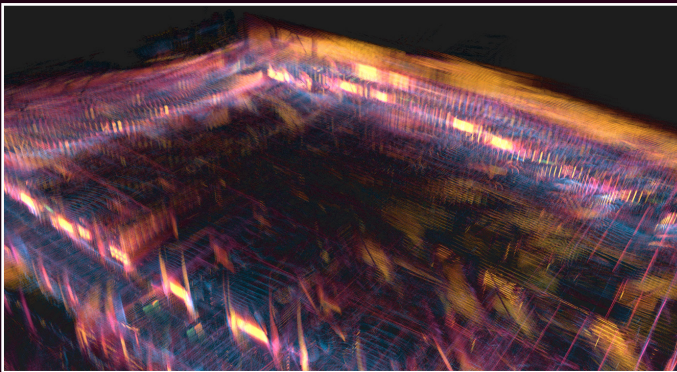
Measurement	
North	1.61 m
East	2.44 m
Down	0.97 m
Heading	2.50°
Pitch	0.02°
Roll	0.01°

3. LiDAR map matching (LMM) aided

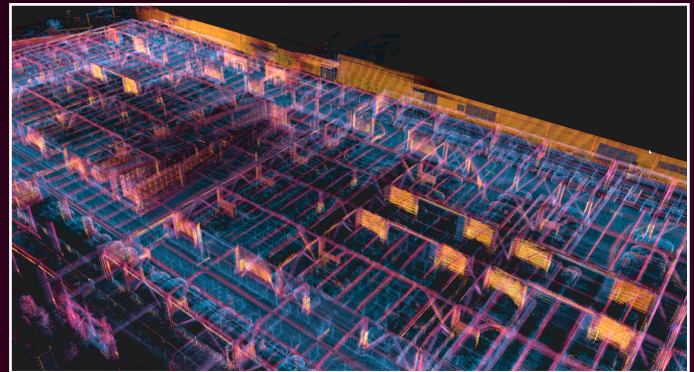


Measurement	
North	0.05 m
East	0.04 m
Down	0.03 m
Heading	0.09°
Pitch	0.01°
Roll	0.01°

An improvement in localisation accuracy also led to an improvement in pointcloud clarity.



GNSS and IMU



GNSS, IMU and LiDAR aided

To find out more please visit www.oxts.com

T: +44 [0] 1869 814253
E: info@oxts.com



X
x.com/oxts_official



YouTube
youtube.com/@oxts



LinkedIn
linkedin.com/company/oxts

