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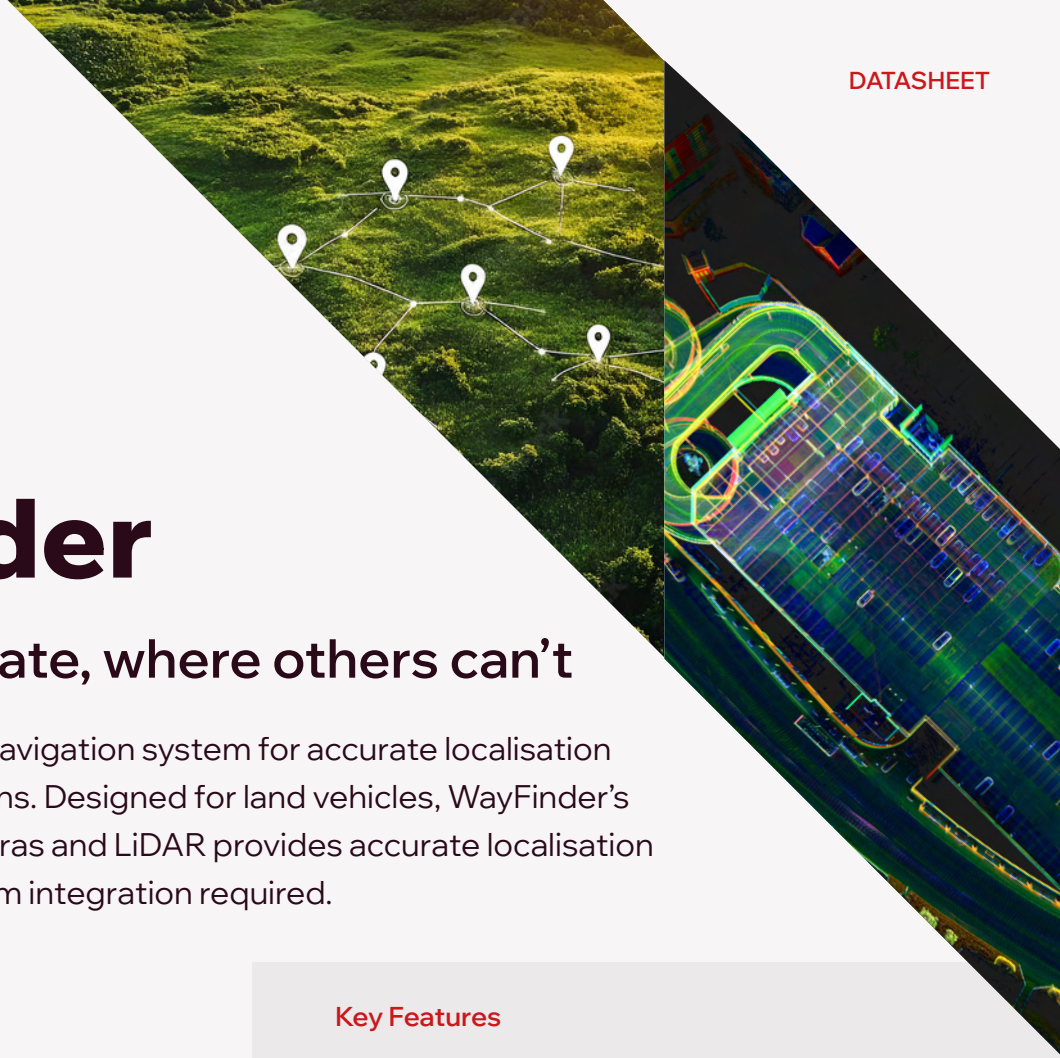


WayFinder

Locate and navigate, where others can't

WayFinder is a multi-sensor navigation system for accurate localisation in challenging GNSS conditions. Designed for land vehicles, WayFinder's integrated GNSS, IMU, Cameras and LiDAR provides accurate localisation out-of-the-box, with no system integration required.

Specification

Positioning	GPS L1, L2C (QZSS) GLONASS L1, L2 BeiDou B1, B2 Galileo E1, E5
Antenna configuration	Single/Dual
Export controlled	No

Key Features

+ GNSS-denied navigation without infrastructure using integrated GNSS, IMU, LiDAR and processing hardware
+ All sensors pre-configured for rapid out-of-the-box evaluation and deployment
+ Straightforward vehicle installation

Performance [1] [3] (RMS)

	Without GNSS			With GNSS
	Real-time	Post-process	LiDAR map aided	Real-time
X,Y Position (RMS)	0.42 m	0.22 m	0.03 m	0.01 m
Position error as % of distance travelled	0.14%	0.07%	0.01%	N/A
Altitude (RMS)	0.30 m	0.13 m	0.03 m	0.01 m
Velocity (RMS)	0.13 km/h	0.06 km/h	0.05 km/h	0.05 km/h
Roll & Pitch (1σ)	0.03 °	0.02 °	0.02 °	0.02 °
True Heading (1σ) [2]	0.08 °	0.02 °	0.05 °	0.05 °

Physical characteristics

Input voltage	10-28 V dc
Power consumption	28 W
Dimensions	280 x 160 x 130 mm
Mass	3.25 kg
Internal storage	32 GB (INS) + 250 GB

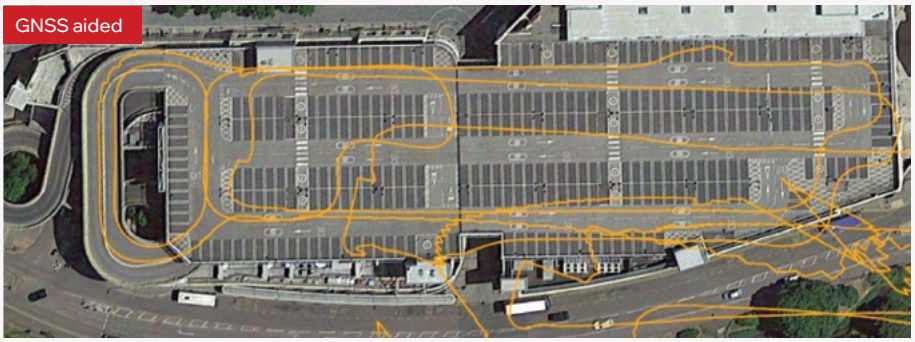
Interfaces

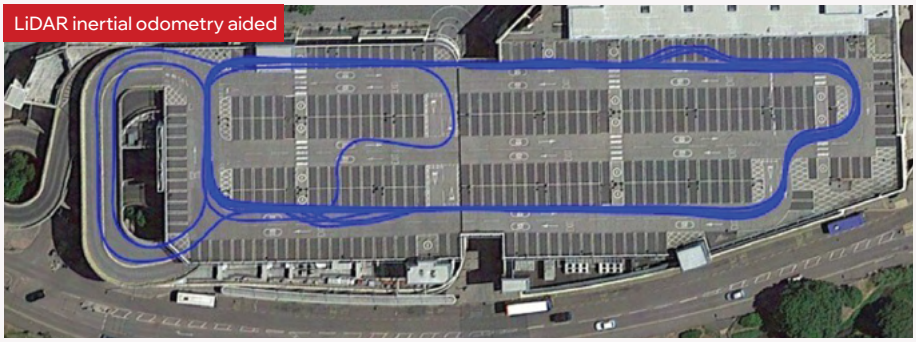
Ethernet	3 x 10/100 Base-T
Serial	1 x RS232
Digital I/O	Quadrature wheelspeed input PPS/PTP output 2 x Trigger input/output

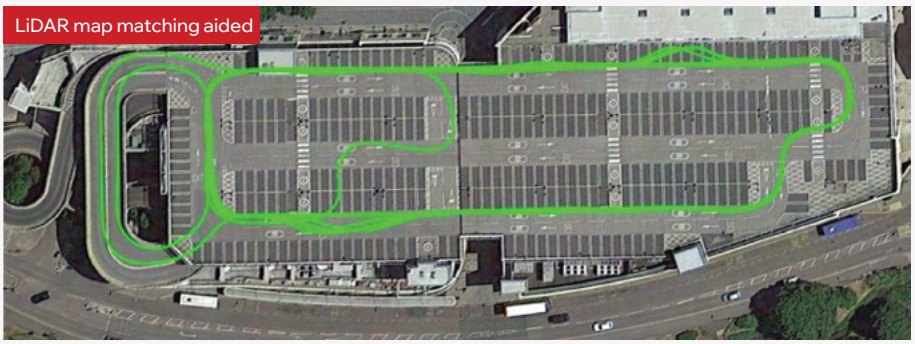
[1] With differential corrections and LiDAR odometry input
[2] With two-meter antenna separation
[3] 60 second GNSS outage

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.

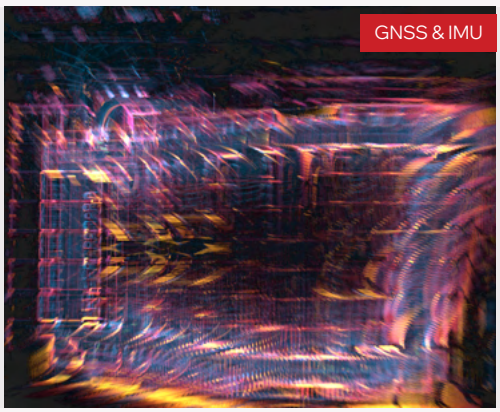


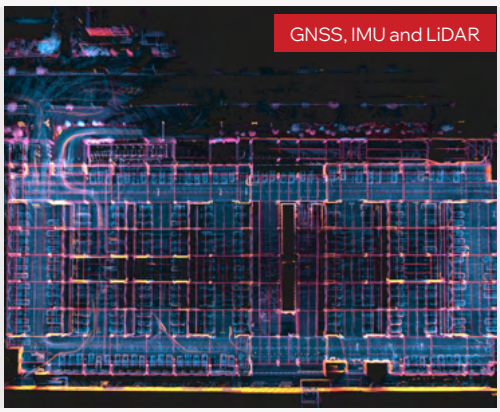




Example data

Improved navigation data in GNSS-denied environments will also lead to an improvement in pointcloud data, as is shown in the same multi-storey car park example here.





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