

# Last Mile Satellite Navigation

## Overview



An innovative element of the Opus Fleet & Distribution portfolio is a low-cost satellite navigation system option. The solution goes hand-in-hand with the in-vehicle electronic proof of delivery (POD) solution. This normally consists of a rugged mobile data terminal (MDT) or a lower cost personal digital assistant (PDA)-style terminal, with mobile communications, predominantly GPRS.

Particularly in ad hoc collection and delivery, or multi-drop environments such as courier services or home delivery, customers have found significant operational value by providing the driver with real-time navigational guidance.

What makes the solution attractive is that this Last Mile Satellite Navigation can be provided for a significantly lower cost than 'stand-alone' satellite navigation hardware, and with no additional vehicle fitting.

Furthermore, this lower cost along with the considerable operational benefits that integrated delivery and collection point navigation provides, means a more rapid return on investment on the outlay made on the mobile data terminal in the vehicle.

The Satellite Navigation application provides both visual and audible turn-by-turn instructions. The controls have been designed such that visual communication options can be configured to be displayed only below certain speeds or when idling or stationary.

The Satellite Navigation module is fully integrated with the proof of delivery (POD) solutions. The POD application feeds the next address directly to the guidance software, eliminating the driver from entering any details (they can still enter destination details manually if required). On arrival at a destination the POD application is shown again.



- ▲ CUSTOMER SERVICE
- ▲ SCHEDULE ADHERENCE
- ▼ OVERTIME
- ▼ STRESS
- ▼ JOURNEY TIMES

## Business Benefits

- Reduced mileage and fuel use - no wrong turns and deviations in finding a delivery point
- Better schedule adherence - no wasted time 'getting lost'
- Less driver stress - accurate and timely audible/visual directions
- Dynamic ETA calculation - give customers accurate arrival times via the TMC
- Ideal for home delivery fleets, where drop points are always changing

## Satellite Navigation - Key Features

- Low cost add-on to existing MDT hardware
- Clear audible and visual directions given in plenty of time
- Integrates with the POD application; addresses supplied automatically
- Automatic re-routing should a diversion be required (e.g. for road works)
- Street Level mapping
- Optional integration into the TMC allows functions like the displaying of the real-time location of other company vehicles to be displayed
- Custom locations and icons can be added for commonly used sites, such as fuel depots, distribution centres, traffic black spots, etc.

## Functional Summary

The navigation software gives turn-by-turn details including moving map displays and audible instructions. Maps show current vehicle location and simple icons show the distance to the next navigation point (junction, round-about etc). Audible instructions back this up, giving plenty of notice (typically 200 - 500 metres in advance) of the next turn and reinforce this again at the turn itself.

The mapping includes street-level detail, including one-way systems. The POD application can also draw icons on the map representing customer sites, depots, etc.

Wrong turns are automatically re-calculated to a new route within a few seconds, issuing new instructions to the driver. This is also applicable where the driver 'knows best' and has a reason to take a particular route.

The TMC system can also transmit real-time traffic information to the terminal, displaying the problem on the map and allowing the driver to use the navigation system to route around it. Other real-time features include the ability to display other company vehicle locations on the map - useful in instances where loads need to be split or in the case of break downs.

Where a POD terminal is accompanied by the Automatic Vehicle Location (AVL) Black Box, then satellite navigation is provided through a simple software addition on the mobile data terminal (MDT). Where no Black Box solution has been installed, GPS satellite data is presented to the MDT through the addition of a GPS receiver. The same GPS receiver can also be used to provide Mobile Data Terminal based Automatic Vehicle Location (another product in the Opus Fleet & Distribution portfolio).

Satellite navigation is an inexpensive and powerful module to add to an existing POD solution. It can contribute to decreasing inter-delivery times by eliminating 'getting lost' and to reduce mileage and fuel costs. Reduction in stress must also be considered - this alone often endears it to the driver.