Case study

# PARCEL CARRIER'S DRIVERS GET THE SECURITY OF APLICOM IN-VEHICLE COMPUTERS AND COMMUNICATIONS

Ireland's Special Distribution Services (SDS) is a division of the national postal service, An Post. It's fleet of 150 vehicles from 3.5 tonne vans to articulated trunkers, and truck and trailer combinations is the country's largest national parcels carrier for goods between 1kg and 30kg.

SDS often carries high value goods – putting the near 200 drivers at constant risk as they travel the country's roads. Historically, the problem was communications technology that relied on two-way radios - successful for direct, verbal communications, but potentially disastrous for drivers and their cargo in terms of security.

Some years ago two SDS trucks were hijacked and the loads stolen. The thieves, using the radio waves of the SDS drivers' radio communication sets had tracked each vehicle and knew where it was and they could plan the best place to stop it.

SDS Projects Manager Gerry Agnew vowed then that there would be a solution, and he researched the different options open. His chosen solution was the installation of GSM-based communication systems linking the depots and head office with each vehicle through a discreet, built-in computer. Since then, he says, there has not been a single incident.

Cargo value is an important factor, with SDS having the contracts to carry products for several tobacco and information technology manufacturers as well as the wide range of goods required by businesses and individuals. However, the most valuable element is the driver and SDS is committed to maximising his/her safety and security.

SDS selected Satcom Technology, systems partner of Aplicom, the Finnish manufacturer of in-vehicle computers and data transmission systems, for three clear reasons:

- Ability to work with a proven supplier of communications hardware (Aplicom)
- Knowledge of the security industry and monitoring to the high specification Irish Standard 228, and
- Full compatibility of the system with Ireland's leading GSM provider, Eircell.

The SDS system installed by Satcom is not only discreet and operates without the need for driver input, but it has proved to be highly effective and secure. SDS has recently up-graded the in-vehicle telephone hardware from Satcom, allowing greater data transfer capability. The new, advanced hardware enables the routes within the Aplicom computer to be changed remotely, removing the need for downloading new route information via a laptop computer into each individual vehicle.

The system operates at two levels: GPS tracking and a multi-point alarm system that connects directly and immediately to a special central control room run by specialists MCM in Cork, and covering the whole of Ireland. The GPS tracking system means that not only can the position of the vehicle be communicated to all depots of SDS and the MCM monitoring station, but the status of the vehicle is also known – whether it is moving forwards or reverse, stopped or the ignition on or off.

The alarms cover most of the vehicle, linking all doors and windows, the cab and driver, and various points within the cargo area direct to the MCM control room. Voice contacts have also been installed with the driver able to call up to ten connections at the single push of a button, rather than having to dial in using the GSM to hard line telephone link. In addition, the alarm system includes an automatic immobiliser, which can be re-activated by MCM remotely after checking with the SDS controller.

An important element in the Satcom Technology system is that the drivers have as little involvement as possible. This not only increases their security and safety, but it also ensures that MCM and SDS govern all alarm actions.

Drivers of the 150 SDS vehicles welcomed the introduction of what could have been seen as ‘spy in the cab’. They can clearly see the many benefits over the previous two-way radio system, says Gerry Agnew. Not only do they feel safer and more secure, but the more that is known about the SDS system, the less likelihood there is of SDS vehicles being targeted by criminals.

Controllers and administrators also find their job is faster and easier, with a significant reduction in manual form filling. Where, previously, the driver had to call in every 25 minutes and each call would be logged, the Satcom Technology system does this automatically and securely.

The hardware system is a fully programmable Aplicom ICA 2004 series in-vehicle computer with a 16MHz processor, 128kb standard memory and four RS232 ports. The optional DT3000 interface has already been pre-installed for future growth. The DT 3000 interface allows for future expansion of the system so that individual trucks or the entire fleet can quickly move towards advanced, interactive data transmission using high definition monitors and keypads or keyboards. There is also an optional bar code reader interface for ASCII characters.

The GPS system is based on a 12-channel receiver module and MCX connector and a standard GPA antenna connector. It covers all 150 set routes across Ireland and every truck has all these routes programmed in to Aplicom computer. This offers SDS maximum flexibility of the fleet over all routes and the whole of the country.

SDS is registered to the international standard ISO 9002 and this requires regular audits to ensure the business continues to meet the standards. A GPS-based Management Information System (MIS) ensures that the performance of the vehicle fleet can be monitored accurately and consistently, and it is also useful to pinpoint difficult areas where a regular delivery runs late.

At the moment SDS operates a bar code system for proof of delivery. On delivery the driver peels off the bar code and the receiver signs opposite that bar code. For SDS to introduce a premium time sensitive system for customers there will have to be more advanced data transmission where the customer can sign on the screen and the signature is relayed in real time to the controller. This can be introduced using the existing Aplicom hardware and with Satcom providing the up-graded software and customising it for the specific SDS requirements.

The first area to benefit may be the smaller collection and delivery vehicles where door-to-door deliveries and collections are made. Instructions would be communicated to individual drivers securely, safely and accurately, and drivers would be able to relay the delivery and collection data.

Ten years ago SDS had just 20 Network vehicles: today there are 150 travelling 11 million kilometres a year, and the service looks set for even more growth with the opening of a new state of the art automated parcels sorting centre in the Dublin headquarters, built at a total cost of some £12 million.

The prime benefit of in-vehicle computers and communications is the safety and security of drivers, but the SDS investment means that they are now able to expand the service and offer more benefits for their customers in the most cost-effective way possible.