Digital tracking and tracing – twice as reliable for a fraction of the cost

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Rene Falch Olesen, Managing Director of DSV UK

Destiny supplied DSV UK with an innovative digital track and trace procedure that provides accurate up-to-the-minute information on the location and delivery status of their international consignments. On the face of it, the new process of filling in a form and getting the end customer's signature as Proof of Delivery (POD) is very similar to the traditional way of working. Behind the scenes, it has revolutionised DSV's business. Thanks to the new system, electronic POD is instantly available, while electronic proof of location means that any queries or disputes can be resolved quickly and easily.

"The digital pen was the one solution that was easy to understand and easy to roll out to our drivers – with big savings in time and cost of service. It's now a key part of providing full track and trace visibility", says Rene Falch Olesen, Managing Director of DSV UK.

Earlier method of tracking consignments
Previously, all consignments were recorded on paper forms by the drivers making the delivery. They would obtain the signature of the end recipient as Proof of Delivery and the signed form would be scanned on their return to the DSV depot. The weakness of this system was that the POD could not be

recorded and made available to logistics managers until the driver had physically returned to the depot. It was also time-consuming, and left a wide margin for error in the collection, scanning and transmission of data. Sometimes, 48 hours would pass before a form could be scanned and made available to end customers as POD. Also, the documents often got crumpled or damaged, resulting in a barely legible scanned image of the POD.

The search for an electronic system
In early 2008, Palletline, the UK's leading delivery network for palletised freight, introduced a requirement for electronic POD for each consignment. As Palletline's largest member, DSV was committed to finding the optimum IT-solution. They looked into Palletline's own proposal – a rugged laptop system.

However, DSV were deterred by the high cost: around £3 million in total to equip 600 drivers. In addition, they knew that laptops would not be sufficiently quick and easy for their drivers to use in the field, especially since some drivers might not be familiar with the technology or have English as a first language. Moreover, laptops would be expensive

to purchase and costly (and disruptive to business) to replace if lost or stolen.

Anoto Digital Pen and Paper technology was identified as a more practical option. Since drivers would be using familiar tools – pen, paper and mobile phone – the training requirement would be minimal, making start-up quick and easy. And the initial investment required would be far lower than with rugged laptops. In the unlikely event of a pen being lost or stolen, drivers would be able to continue working with an ordinary pen until the lost one could be replaced.

Easy implementation
Within four weeks, Destiny's multinational development team successfully created the Reload service, a solution which met all the agreed specifications. Requiring neither months of complex software development, infrastructure replacements nor extensive user training, DSV were able to enjoy a hassle-free start-up and quickly begin recouping their investment.

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Initially, a pilot project tested the new system by equipping 130 DSV drivers with the new Digital Pen and Paper technology. The forms were pre-printed on paper with Anoto's dot pattern, where consignment specific data and end-customer signatures were recorded with a digital pen and made available to depot managers in real time. Both the drivers and their end customers found the new system easy to use, so the solution was quickly deployed to DSV's other 20 or so depots and 700 drivers in the UK.

How it works

Drivers are equipped with a digital pen and a Bluetooth®-enabled mobile phone. For each consignment, a form carrying delivery details is printed at the local depot on paper with Anoto's dot pattern. Thanks to the dot pattern, every form can be instantly identified from Destiny's servers. When the driver makes the delivery, the end customer signs the form and any amendments or annotations are added to the form using the digital pen.

Once the form is completed, the driver ticks a "send" box and all the data on the form is instantly transmitted back to Destiny's server via the Bluetooth-enabled mobile phone.

The unique pen ID identifies the driver and the individual consignment on the server. The pen strokes recorded against the pattern on the paper allow all the details on the form to be recreated as a graphical image as well as a data file. Both are then instantly available to DSV management, to Palletline delivery "track and trace" systems and to end customers as Proof of Delivery. The entire process takes less than a minute, and the phone's GPS function proves that the consignment has indeed reached the correct location.

90% cost reduction over traditional methods

DSV was the first company to adopt a fully integrated electronic POD system using Digital Pen and Paper technology, at around only 10% of the cost of the more traditional methods used by competitors. Digital Pen and Paper technology provides the same functionality and more, enabling DSV to maintain operating costs at a highly competitive level.

DSV also managed to deploy the solution in a fraction of the time it would have taken using traditional electronic signature capture, with far less operational change or disruption. The digital pen is user-friendly for both drivers and customers.

Digitally captured data is guaranteed 100% accurate and the system also provides electronic proof of location for every delivery (not available with other traditional methods) – leading to fewer disputes. Errors have also been significantly reduced.

The system provides near real-time access to online electronic POD records, both for DSV depot managers and customers, leading to major time savings and enabling the redeployment of DSV staff to other activities.

According to Rene Falch Olesen, Managing Director of DSV UK, "There's a saving in the physical scanning of the document, and also a saving in the cost of the service. We know that the document is always going to be available, and it's now an integral part of our aim to give full "track and trace" visibility from the beginning of the transaction until the goods are delivered."

Solution paid for itself in 35 days

Besides the relatively low cost (10% compared to alternative electronic POD systems), the most obvious measurable return from the digital pen and paper tracking system comes from the very significant savings in man hours, that can now be dedicated to more valuable activities.

Set against the investment made in the technology, the solution became cost neutral in just 35 days, based on:
• Initial technology investment of £394,000
• Savings of 1120 man hours per day
• An average hourly wage of £10
• A consequent saving of £11,200 per day

Deployment status and future plans

The initial pilot project involved 130 drivers and was considered a complete success. The pens were soon distributed to 700 drivers in DSV's over 20 depots in the UK and the experience has been so positive that operations at several other DSV divisions across Europe are now also keen to adopt the technology. As the solution was developed specifically with this in mind, additional countries and users can be up and running very quickly and with minimal additional expense. Up to six European countries and 3000 more users are soon expected to be using the technology.

Partner profile:
Based in Guildford, Surrey, Destiny is a leading global provider of Anoto Digital Pen and Paper technology. It is the UK's leader in mobile data communications.

www.destinyplc.com

Customer profile:
DSV is a global supplier of transport and logistics solutions with an extensive range of services in the UK under the brands DSV Road, DSV Air & Sea and DSV Solutions, employing more than 1500 people throughout 52 locations. The UK road division is based in Purfleet, Essex.

www.dsv.com

Anoto Digital Pen and Paper technology
An Anoto Digital Pen looks and feels like a normal ballpoint pen. However, it contains an integrated digital camera, an advanced image microprocessor and a Bluetooth® transmitter. Any paper can be used with a digital pen, if the Anoto dot pattern is added to the layout before printing the paper. The Anoto dot pattern consists of numerous black dots that can be read by the digital pen, but are almost invisible to the naked eye. The pen reads the pattern and registers what and where the user writes.