

Collection & Delivery Operations: Mobile technology innovations for competitive advantage

Honeywell Scanning & Mobility

Mark Davis, EMEA Industry Marketing Manager

Executive Summary

Companies in the collection and delivery sector are constantly seeking new ways to differentiate themselves in an ever-changing market. Mobile computers are a key tool used by collection and delivery companies to drive competitive advantage.

Below are eight technology innovation 'must haves' for collection and delivery companies that are investigating new markets, with the ultimate goal of enhancing customer service and driving operational excellence.

1. The ability to perform proof of location and proof of condition applications, and provide real-time updates to customers using a single device
2. The ability to meet time-definite service levels using ubiquitous, robust wireless communications
3. The ability to intelligently and efficiently capture documents and images within the same bar code scanning and proof of delivery application
4. The ability to quickly and accurately scan bar codes, even damaged codes, for faster vehicle loading and accurate delivery manifests
5. The ability to reduce downtime and costs related to battery charging through the integration of intelligent power management for vehicle-based workers
6. The ability to deploy devices that have been designed for durability and user comfort
7. The ability to allow users to focus all of their effort on the task at hand through the integration of sensors that improve ease of use
8. The ability to manage all mobile devices from a central remote location

Time-critical service levels

The collection and delivery (C&D) landscape is diverse and encompasses a number of transport and logistics segments. Whilst segment terminology may slightly differ by region, the following sectors cover the key operations: courier express parcel (CEP), postal services, third-party logistics (3PL), freight forwarding, groupage, trucking, less than load (LTL), private fleets, and service fleets.

Common to each of these collection and delivery sectors is the high-volume, low-margin environment that drives technology investment decisions by executive management. These investment priorities are predominantly:

- First-time, on-time service-level compliance
- Reduction in fuel consumption
- Resource and fleet optimisation
- Differentiating customer services
- Accurate, on-time billing
- Cash flow optimisation
- New services revenue generation
- Environmental sustainability



Leaders in C&D view investments in mobile worker solutions as a business necessity and a platform for delivering differentiating service levels. Their mobile computing and data collection strategies encompass:

- Proof of collection, receipt, despatch and delivery
- Proof of location, condition, compliance, identity, service, and payment

A critical success factor in executing these “proof of” applications is providing data and tools to collection and delivery operatives, whether vehicle- or foot-based, at the point of work. Equally, communication modes must be seamless to allow critical data to be immediately available to customers and partners, as well as internal business units.

New service differentiators

The highly competitive landscape in the B2B market, and the impact of the liberalisation of the postal market in Europe for example, has led to C&D businesses investigating new markets. Whether B2C or C2C, the key factor in new service delivery is compliance against time-critical service levels.

Moving from, for example am or pm, or even ‘some time next day’ deliveries to guaranteed hourly time slots is a prime goal of many C&D businesses. Not only does this provide increased service levels to the end recipient or consignee, but also new revenue streams as consignors are prepared to pay for guaranteed time-definite services. Additionally, contented consignees lead to brand attachment, which in turn increases repeat business and customer retention.

Being able to deliver these new service levels requires more than just technology in the hands and vehicles of the mobile workforce. For example, the computing power of a mobile platform could be used to perform dynamic scheduling, allowing a C&D business to migrate from ‘rough cut’ scheduling to time-definite routing, when tightly linked to back-office scheduling and routing management systems.

Mobile computing platforms addressing the key ‘proof of’ headings for C&D businesses must provide a convergence of technologies to accommodate the range of prevalent use cases.

Mobility Solutions to Drive Competitive Advantage

The following are eight technology innovation ‘must haves’ when investigating new markets, enhancing customer service and driving operational excellence:

1. The ability to perform proof of location and proof of condition applications, and provide real-time updates to customers using a single device

Integrated GPS technology allows turn-by-turn navigation to a specific location within a larger area, bread-crumbing for trend analysis (planned vs. actual routes), and geo-fence alerts to be sent to customers to provide more accurate estimates of arrival times. Proof of location and proof of attendance can be obtained using geo-codes and image capture if there is no recipient confirmed proof of delivery. World-class GPS applications integrated with customers’ scheduling systems can provide a platform for dynamic scheduling by using the computing power of the mobile device for actual time-definite deliveries. The impact on competitive advantage can be measured in terms of:

- Enhanced first-time delivery
- Increased delivery speed
- Increased customer service and satisfaction
- Reduced fuel consumption

2. The ability to meet time-definite service levels using ubiquitous, robust wireless communications

Constant communication with drivers and workers underpins a successful collection and delivery operation. Immediate task allocation and timely service-level agreement failure alerts allow positive reaction and customer communication when unforeseen events occur. Technology providers must ensure that seamless roaming through software-definable radios and dual SIM cards are available for carrier choice when delivering these optimum service levels. This is particularly evident where vehicles are crossing borders and coverage or air time costs can be inhibitors to service delivery.

Additionally, convergence with fleet telematics systems must be considered to ensure economies of scale when investing in separate vehicle and mobile computing systems, for example integrated wireless communications and GPS. The use of vehicle- and driver-performance metrics to initiate improvement and cost-reduction programs are integral to a successful carrier operation, so mobile computers must have the underlying technology to be able to integrate with in-

vehicle systems. Seamless integration of the two can provide key data to operational management systems and common communication platforms, reducing costs for enterprises.

To summarise, robust wireless communications are a necessity for:

- Immediate and accurate proof of delivery with date and time stamp for proof of service
- Faster invoicing
- Carrier freedom for reduced cell call charges and connectivity everywhere
- Online proof of receipt and customer self service to reduce customer service calls, which can in some cases equate to €30 to €40 per consignment
- In-vehicle telematics integration for common platforms and reduced operational costs

3. The ability to intelligently and efficiently capture documents and images within the same bar code scanning and proof of delivery application

Advanced imaging technology must deliver seamless bar code scanning and picture taking in new or existing customer applications. The ability to easily integrate these capabilities into software applications can save tens of thousands of euros in programming fees while providing a more robust and fault-tolerant solution. Enabling co-operation of bar code scanning and picture taking, whether of an image or a document, in real time within the same application can save workers 30 seconds or more per data capture transaction, allowing them to complete tasks faster and more accurately. Using picture profiles, developers can automate all camera settings to simplify operator use and greatly improve image quality. This also enables document image capture in the field, saving the high costs associated with third-party imaging services and penalty claims, whilst also reducing billing cycles by, in some cases, up to nine days.

4. The ability to quickly and accurately scan bar codes, even damaged codes, for faster vehicle loading and accurate delivery manifests

Imaging technology is the ideal solution for C&D operations, thanks to its ability to read virtually all linear and two-dimensional (2D) bar codes, capture images and digital signatures, and read optical character recognition (OCR) fonts, thus enabling users to capture and manage much larger volumes of data than in the past.

Imaging technology allows the reading of bar codes in any orientation or direction, at one button depression. This functionality becomes increasingly powerful when combined with superior motion tolerance and sophisticated bar code decoding algorithms, and can have a significant operational impact when loading vehicles with consignments spread over the floor at dock doors. First-time accurate scanning saves critical seconds and minutes, ensuring workers are on the road earlier and able to deliver more consignments and orders.

2D codes are becoming the adopted standard as they can contain large amounts of information, including all consignment shipment details. The use of 2D bar codes minimises manual keying and provides the basis for vehicle load scanning to automatically create electronic data interchange (EDI) data for manifests. In addition, multiple bar codes can be captured in one scan, preventing duplicate reads, therefore speeding up the complete process.

Quick and accurate scanning greatly reduces the likelihood of add-ons, overs or shortages, as well as goods lost in transit and time spent searching for ghost items. Additionally, spurious failed delivery claims can be countered with accurate process information, driving down penalty costs.

5. The ability to reduce downtime and costs related to battery charging through the integration of intelligent power management for vehicle-based workers

Whether using standard or extended battery options, a minimum of 12 hours of battery life is needed, delivering battery life that lasts for a full working day.

Beyond the basic specifications of a given battery, advanced mobile computing platforms incorporate an intelligent power management system that extends battery life through the inclusion of power save modes, as well as ambient light and proximity sensors.

Ambient light sensors allow the automatic adjustment of screen brightness and keypad backlights to conserve battery life. Similarly, proximity sensors can turn off the display when the device is put face down, extending battery life.

Long-lasting battery life improves worker productivity by eliminating the need to replace or charge batteries while on the road. Further, enterprises can save significantly, since vehicles will no longer need to be equipped with chargers.

6. The ability to deploy devices that have been designed for durability and user comfort

A user-friendly form factor is critical to keeping employees productive in the harshest environments and providing a highly competitive total cost of ownership. Over time, well-balanced devices with low weight that allow single-handed operation have emerged as leaders.

Integrated finger saddles should be incorporated for user comfort. Optimised wrist posture must be inherent in the design of the device. For example, an angled scan engine reduces fatigue and provides enhanced screen viewing angles to increase the speed of data capture.

Additionally, single-handed use increases delivery speeds, especially on devices that incorporate a keypad that has been optimised for data entry.

7. The ability to allow users to focus all of their effort on the task at hand through the integration of sensors that improve ease of use

The latest technology should be incorporated in mobile devices to negate users having to configure or change settings whilst on the move. As we know, every second counts in collection and delivery operations, so any small advantage per user can be scaled to significant savings in a large fleet/workforce operation.

For example, motion sensors can automatically rotate the screen for optimal user interaction and customer on-screen signature capture. Additionally, devices in idle mode can be 'woken up' when moved, conserving battery life.

Motion sensors can also provide detailed event logs when managed from a central device management solution as detailed in the following section. These

analytics can be used to compare user performance if equipment failures are being reported.

8. The ability to manage all mobile devices from a central remote location

For enterprises with mobile devices that are widely dispersed, a remote device management solution can help to significantly reduce the total cost of ownership. When mobile devices are constantly on the move, it is difficult to keep software up-to-date, ensure proper configurations, and monitor vital performance indicators. A remote device management solution can solve this problem by performing key functions, such as asset tracking, software distribution, configuration management, remote diagnostics, and performance measurement—all from a single, remote location.

More sophisticated remote device management solutions can even provide additional data on device usage, including bar codes scanned, drops and key presses, allowing enterprises to easily identify areas of improvement.

Summary

Technology point solutions exist for many operational areas of a C&D business, but the key to service delivery excellence and new service differentiation is the integration of new operational processes, hardware, software, IT services, project management, education, user acceptance, and reliable on-going service and maintenance across all business functions.

From a total solution perspective, reliability, battery life, and superior performance all deliver significant monetary benefits, but when a device fails in the field, or when information in the IT system is not up-to-date; costs to the business can dramatically increase.

Customers deploying a mobility solution in collection and delivery operations must evaluate the criteria by which success can be measured. In summary terms, the table on page five illustrates some of the metrics that should be front of mind.

Customers

All of the technologies and solutions referenced in

this paper, and the benefits derived, are provided by Honeywell Scanning & Mobility to its global customer base of leading collection and delivery companies. Below you will find testimonials from some of our key customers in the C&D space.

“The solution from Honeywell represents to us a guarantee of performance and quality. Once again, they have proven that they can supply cutting-edge solutions geared towards the extreme conditions experienced during our delivery rounds.”

-Raphaël Alvarez, Manager of Transportation Information Systems, Chronopost. Quoted from Honeywell case study entitled 'Honeywell Equips Chronopost with Dolphin 9500 Mobile Computers. Chronopost Agents to Confirm Parcel Deliveries in Less than Ten Minutes'

“By using Honeywell mobile computers, we have created a consistent electronic supply chain management solution that ranges from the customer, via our haulage company, to the recipient of the goods and back again. The quality of our planning processes and vehicle usage has also improved. The Honeywell mobile computers are in continuous use and can survive knocks that are inevitable when used on the road by 2,000 drivers.”

-Jari Bister, Development Manager, Itella. Quoted from Honeywell case study entitled 'Itella Keeps Its Promise Thanks to Honeywell Mobile Computers'

“The benefits of the system can be summarised in a strongly streamlined postal production and supply chain, and accurate control of every single phase of the postal delivery operation. The quality level of the service provided has been enhanced, and our customers have directly witnessed a consistent reduction in end user complaints. We have created great added value to the service offered to our customers.”

-Andrea Bertoldo, President of the Consorzio Hibripost, Hibripost. Quoted from Honeywell case study entitled 'Consorzio Hibripost Certifies Mail Delivery with Dolphin® 7600 Mobile Computer from Honeywell'

ROI Criteria:

- Reduction in debtor days and customer queries
- Reduction in driver paper use and office data capture
- Reduction in document scanning function
- Reduction in fraudulent claims or claims due to error
- Reduction in credit notes
- Reduction of goods lost in transit
- Reduction in driver overtime / relief drivers
- Reduction in communication costs
- Improvement in asset / resource / fuel utilisation
- Increased productivity

“We can access any truck online via the Honeywell devices, using an area search, and are delighted with the ‘zero error quota’ of the devices. We’ve been impressed by the high availability and reliability since their introduction.”

-Fridolin Landolt, Planning and Transportation, Planzer. Quoted from Honeywell case study entitled 'Planzer Plans a New Supply Chain Management System'

About Honeywell

Honeywell Scanning & Mobility, a leading manufacturer of high-performance image- and laser-based data collection hardware, delivers the latest functionality to meet customer demands. For example, the new Dolphin® 99EX mobile computer is unrivaled in terms of functionality and performance, and comprises the latest in rugged ergonomic design for single-handed use by delivery drivers. This was achieved by close collaboration with key global customers in a constant and consistent ‘voice of the customer’ program.

Please visit www.honeywell-promo.com/99EX for more information about our collection and delivery technology solutions.

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