

Smart ideas for enhancing field-force operations



Recent technology advances in handheld computers and mobile printers are making it possible to introduce many new or improved methods for dealing with the delivery of goods or services in the field. Instead of only having computer access and printing capability at the depot, the delivery driver and mobile service engineer can carry a lightweight portable printer and handheld terminal which communicate via Bluetooth® – so no cumbersome cables – and use them as they travel on their route.

Invoices, receipts, labels or service reports can be printed using data entered, stored or calculated in the handheld terminal.

This mobile functionality can help:

- Lower costs
- Increase revenue
- Improve driver productivity
- Reduce errors
- Enhance customer satisfaction
- Better competitive advantage

Mobile PoS receipts printed at the delivery point, with the transaction sent back to a central payment server, reduce processing at the back office and improve cash flow through real-time payment transactions.

Proof-of-delivery dockets printed at the time of delivery can include a full description of the goods or services supplied, details of the driver/engineer, and a time stamp. On-screen signatures can be printed on the delivery docket.

Invoices and sales orders for route sales when printed on site, with the order communicated back to the sales ordering process by wireless technology, offer several advantages:

- the customer has an immediate record of his order
- postal costs are reduced
- time is saved for the driver since the order is entered automatically and not at the end of the day
- back-office processing is reduced
- inventory management is based on real-time information

Returned goods labels including a bar code are processed much quicker than handwritten returns dockets. If the driver labels returns as they are picked up, there is no sorting out to be done when they are off-loaded and they can then go back into the distribution centre or warehouse rather than cluttering up the returns bay.

Forward-tracking labels and receipts to track goods as they pass through each stage of the supply chain will be increasingly important as a compliance issue for the food industry under food traceability regulations (reg. (EC) No. 178/2002). Labelling goods at the time of pick-up allows perishable goods to be independently tracked according to a date and time stamp, producer's details, and carrier's registration information.

Work orders can be printed to back up information provided by the in-cab computer. These will include details of the job, location and directions.

- Mobile POS receipts
- Proof-of-delivery dockets
- Invoices and sales orders
- Returned goods labels
- Forward-tracking labels
- Service reports
- Inspection labels
- Warranty receipts
- Work orders



Mobile printing for **delivery** and **pick-up operations**

Home deliveries: take the hassle out of reconciling order variations

Online shopping with home delivery has become very popular for people with busy lives who do not want to spend time dragging around the supermarket every week. However, some of the advantage can be lost when it comes to reconciling the delivery. Inevitably, there will be product substitutions that the customer will reject. With a pre-printed receipt, customers cannot be confident that they are only being charged for items received. However, when the driver has a mobile terminal and printer, rejected items can be removed from the order details and a fully detailed receipt printed that exactly matches the delivery.

Both the customer and the supermarket benefit from having accurate records because reconciling errors can be very time-consuming. The driver can be away to the next delivery much quicker, and with increased customer satisfaction, the supermarket working this way will have a definite advantage over those that don't.



Direct-store delivery: better service to the retailer at reduced cost to the supplier

In many parts of Europe, as well as in the USA, supplies of perishable produce such as chips, bakery, dairy, ice-cream, as well as soft drinks, water and beer are delivered direct to retail outlets by the producers. The van driver who has a regular route will call at the shop, examine the stock and then refill the shelves or cabinets as required. With a manual system, it takes some time to produce a sales invoice for the retail owner, there is great scope for error, and all of that handwritten data must be read and entered onto the supplier's system when the driver returns the records. The driver might also need to record and receipt high-value returnable assets such as beer kegs or gas bottles.

It is easy to see how a mobile system can improve this process with a detailed printed invoice, prices automatically calculated and data quickly downloaded from the handheld terminal. Productivity goes up and costs come down. The driver can even take a card payment and issue a receipt, helping improve cash-flow.

Make extra sales en route: increase revenue with sales of seasonal goods or promotions

For deliveries both to homes and stores, there are opportunities for the driver to make additional sales by carrying seasonal goods or special promotions. However, with a manual, handwritten system, the cost of managing these sales could swallow up much of the increased revenue. With a mobile terminal and printer, it is really easy and quick for the driver to record, price, invoice and take payment for these extra sales so that there is a significant revenue increase for very little overhead.

Durability of thermal printing

There is still a (mistaken) belief by some that direct thermal printing will not last sufficiently long for invoices and receipts.

Printing on Zebra's standard Direct Tag™ 850 receipt paper has a guaranteed printed image lifespan of five years under appropriate storage conditions.

Zebra can also supply receipt papers with a storage lifespan of up to 12 years.



Mobile printing for field-service operations



Saving time through automation

Many processes can be made quicker and easier using handheld computers and mobile thermal printers

Inspection and survey: Home inspectors, insurance claims agents or equipment survey personnel (responsible for safety and efficiency of heating and ventilation systems, sanitisation services or electrical installations, for example) can now print a copy of the completed work order, estimate, inspection or violation report, and leave it with the customer. A signed copy can be retained for records as proof of the inspection work having been carried out.

On-site maintenance and repairs: Service technicians can have immediate access to up-to-the-minute work assignments. Once the work is completed, they can print out a detailed report of the work done, including parts fitted and further servicing recommendations to give to the customer. They can also print an invoice and receipt.

Warranty returns: Where equipment needs to be returned for repair under warranty, the field technician can print out the necessary returns document on site, speeding up the returns process and reducing administrative overhead.

Asset management: Construction companies that leave equipment at job sites need a quick way to conduct walking inventories of major equipment. Scanning a tracking label using a handheld terminal is a quick way to identify the unit and log its location. Mobile printers are an efficient way to apply tracking labels to equipment that is stored in diverse locations. They can also print a site inventory report that can be left with the site manager.

Quality assurance testing: When livestock, crops or prepared foods are tested for health and environmental issues, the veterinarian or health inspector must file a visit report with the government department. The farmer will need a ticket to enter in the livestock log book; the grower or food preparation establishment will need a record of when the inspection was carried out and any non-conformance issues noted during the visit. Using mobile computers and printers reduces process errors and cuts down the time spent on paperwork. Food safety is improved by more reliable and timely tracking and tracing capabilities.

Businesses served:

- Utilities: electricity, gas, water
- Escalators, lifts, automatic doors
- Computers, printers, copiers
- Vending machines
- Security installations
- Domestic white goods
- Heating and ventilation
- Health and safety inspectorate
- Vehicle breakdown
- Construction
- Buildings surveyors
- Insurance assessors
- Veterinary inspection
- Food safety inspection



Mobile printers for field-based industries from Zebra

RW 420™

The RW 420 has been designed to endure extreme temperatures, humid conditions and multiple six-foot drops onto concrete, and meets IP 54 rating for resistance to dust and water, so it is ideal for printing receipts, invoices and work reports en route. Drivers can use the printer in the vehicle or clip it to their belt and carry it with them. A specially designed cradle for docking and charging is convenient for vehicle use and to enable battery recharge during long shifts. The RW 420 supports Bluetooth or 802.11b wireless technologies and has a card-reading capability (EMV level 1).



QL™ Series Printers

Compact, convenient, and lightweight, QL series printers with QuickLink™ connectivity are ideal for printing transport labels, returned goods labels, picking lists, receipts, invoices, proof of delivery receipts, inventory reports, and other formats up to 104mm (4") wide. The QL Series supports 802.11, 802.11b and Bluetooth connectivity.



Cameo® Series Printers

Cameo mobile printers are mainly used for printing receipts or tickets. With Bluetooth connectivity and card-reading options, including EMV level 1 approval, they are ideal for taking payment or card verification at point of delivery.



PT403™

The PT403 is a mobile printer that uses thermal transfer technology and is ideal for printing highly durable labels for field-service applications such as asset-tracking outdoors.



For more information on these printers, please ask for the product datasheets.



Advantages of thermal versus impact portable printers:

- More portable: half the weight of a typical impact printer
- Faster: as much as seven times faster
- More robust: rugged design and with fewer moving parts than an impact printer, which usually needs an external case to provide adequate protection
- Signature printing: can print graphics including signatures, logos, and images
- Cheaper media: typically 20% cheaper than for a dot matrix, and no impact ribbon is required
- Longer duty cycle: typically an eight-hours-plus shift on a battery charge taking 70 minutes; less than half the time it takes to recharge an impact printer
- Radio connectivity: Bluetooth® connection to the handheld terminal is easy and efficient, but few impact printers support Bluetooth
- Scalable fonts: including TrueType™
- Bar codes: fast printing including 2-D bar codes, with high scan rates

Printer accessories and supplies

Accessories

There is a range of accessories for Zebra's mobile printers:

Mountings

Printers can be worn on a shoulder strap or clipped to a belt. There are also mountings to enable them to be fitted into the cabs of vehicles.

Vehicle-chargers

When mobile printers are operated in vehicles, there are special vehicle-chargers that will maintain the battery charge while en route.

Spare batteries and battery chargers

Fast chargers will replenish batteries in two to three hours. On average, a full charge will last for a typical eight-hour shift. For longer shifts and higher usage rates, Zebra offers an extended-life battery that doubles the output, or you can keep a spare set of batteries charged, ready for a quick change.

Need a special receipt or label?

You need to be confident that a receipt or label will perform well when used out in the field. Direct thermal offers quick and easy printing for short-term labelling and long-term archiving applications. Thermal transfer offers a more durable solution when labels must withstand environmental conditions such as heat, abrasion and chemicals. Synthetic labels (available in both direct thermal and thermal transfer) offer excellent tear- and water resistance.

Zebra Technologies offers all these options and has literally hundreds of different high-quality, off-the-shelf receipt paper and labels for quick and easy delivery. But if you can't find what you need in this vast stocked selection, there's Zebra's custom label service, which will design a label to your specification. With almost unlimited flexibility in the choice of materials, sizes, shapes, colours and adhesives, you can have receipts or labels that reflect your style and functional needs. Bar codes must scan successfully, and the material, inks or adhesives must not damage the printhead. Genuine Zebra® labels and ribbons are tested thoroughly to ensure best performance in Zebra printers and to enhance printhead life.



For further information on these products, please visit the Zebra web site at: www.zebra.com



Zebra Bar Code Products

European Headquarters

Zebra House, The Valley Centre
Gordon Road, High Wycombe
Buckinghamshire HP13 6EQ
United Kingdom

Tel: +44 (0)1494 472872
Fax: +44 (0)1494 450103

Regional Sales Office

Mollsfeld 1
D-40670 Meerbusch
Germany

Tel: +49 (0) 2159 6768 0
Fax: +49 (0) 2159 6768 22

Regional Sales Office

50 rue Marcel Dassault
F-92100 Boulogne-Billancourt
France

Tel: +33 (0)1 55 20 93 93
Fax: +33 (0)1 55 20 93 99

International Headquarters

333 Corporate Woods Parkway
Vernon Hills, IL 60061-3109
USA

Tel: +1 847 793 2600
Fax: +1 847 913 8766

Other Locations

United States: California, Florida, Rhode Island, Wisconsin

Europe: Denmark, Italy, Spain, Sweden

Asia-Pacific: Australia, China, Japan, Singapore, South Korea

Middle East: Dubai



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