Mobile Technology Changing the Face of Transportation and Logistics
Relationships between distributors, suppliers and other mobile service businesses and the customers they serve are typically fast-paced and time sensitive, spurring many businesses to turn to technology to automate and integrate their route accounting transaction management.

The era of offline, handwritten paper-based transactions is fading fast as more fleet-based companies adopt automated, computer-based wireless systems that link mobile workforce transactions with back-office planning, processing and reporting systems.

The route automation trend spans many industries. Whether a fuel supplier specializing in just-in-time deliveries to oil drilling sites, a food and beverage distributor serving a network of supermarkets and retail stores, or a construction firm delivering materials and equipment to job sites, integrated route management software and mobile printing has proven to help to reduce costs, improve transactional speed, increase visibility across the enterprise, all while ramping up driver productivity and customer service.

What’s trending on the mobile front?

One trend is the proliferation of enterprise-level mobile business management solution suites. With more sophisticated architecture and functionality, an enterprise suite will typically encompass multiple functions – including sales, distribution and delivery, warehouse, inventory management, reporting and other back-office processes – all accessible through an integrated mobile wireless platform. These newer supply chain and logistics solutions are being deployed by some of the nation’s largest and most successful shippers, distributors and transportation providers, but we’re seeing mid-range and even smaller companies adopting mobile technology as well.

Another major trend in the mobile enterprise market is the adoption of consumer mobile devices, such as laptops, tablets, mini tablets and smartphones, as opposed to proprietary, ruggedized handheld computing devices. Mobile workers are familiar with these devices in their personal lives, and so find them easy to learn and use in their professional lives. As such, an increasing number of mobile organizations are equipping their field personnel with smart devices built on Apple iOS, Android, Microsoft Windows and Windows Mobile operating systems.
While consumerization of smart computing devices has become widespread, the concept should definitely NOT extend to mobile printers. Just the opposite, in fact. Mobile printers for mobile workforces need to be industrial tough or semi-rugged to withstand the rigors of day-to-day life on the road in all kinds of weather and harsh environments. Mobile printers built for field and fleet use are compact in size, simple to maintain, offer ergonomic design and ease of use, as well as high-speed, high-resolution thermal printing of receipts and other documents.

To meet current and future needs, the printers deployed must be modern, smart and versatile, offering compatibility with all major devices and operating systems. They should provide flexible connectivity options (Wi-Fi, Bluetooth, serial and USB), as well as a high level of quality, functionality and performance. And, to ensure long service life, they should offer cost-saving features such as low maintenance, extended battery life and a solid manufacturer warranty.

Selecting closed or proprietary systems can lead to premature obsolescence and the need to replace devices as new technology solutions emerge. Future-proofing mobile printing products in a practical way can help private and public enterprises alike protect their technology investment, while at the same time driving operational efficiency, reduced cost of ownership, and increased profitability.
Since 1985, Rolfson Oil has delivered a range of fuels and drilling fluids to customers engaged in drilling and hydraulic fracturing operations in the Bakken Shale region of North Dakota. With multiple facilities across the area, the firm employs more than 200 field technicians, and supports about 45 delivery trucks with capacities ranging from 5,000 to 11,000 gallons. Working 24/7, drivers cover long distances over rough terrain visiting drilling and production sites up to four hours apart. Depending on the season, they often experience weather extremes of up to 100 degrees in summer and down to 40 degrees below zero in winter.

According to Jason Burger, Director at Rolfson Oil, “In developing a field mobility strategy, one of our main goals was to make the drivers’ jobs as hassle-free as possible so they can focus on timely customer service and the safe transport of our products. Another important goal was to accelerate real-time information flow across the company to improve the efficiency and productivity of our drivers, field technicians and administrative staff.”

The fuel supplier’s mission is to meet each customer’s fuel needs as drilling crews move swiftly from well to well, location to location. To ensure efficient accounting and invoicing, the driver must issue a proof-of-delivery ticket whenever a customer’s tank is refilled – a purchase that can easily total $40 to $50 thousand dollars. Previously the tickets were pre-printed at a central office prior to the fuel run. If an order was changed or re-routed to a new destination, a frequent occurrence, the receipts had to be re-calculated by the driver at the site – a process susceptible to human error.

In sourcing a mobile receipt system, the overall objective was to install a rugged, reliable system that was easy to deploy, simple to use – one that delivered on the objectives of process automation and integration with the back office.

The components comprising Rolfson Oil’s new mobile accounting system include:

- Custom software that tracks orders, assets, inventory and other key metrics linking operations, dispatch, finance and customers in real time.
Apple iPad Mini tablets drivers use to interface with the system to automate ticketing, vehicle reporting, driver time and attendance and other tasks.

FileMaker Pro, a database-type application designed specifically for use with Apple iOS computing devices

Brother Mobile Solutions’ RuggedJet® 4 Wi-Fi mobile thermal printers with Apple AirPrint technology, which were added to automate onsite printing of proof-of-delivery tickets and other key customer documents.

Now fleet drivers can automatically calculate the load and distance and instantly issue an accurate proof-of-delivery ticket at the point of delivery – and the transaction is sent electronically to the central office for processing. This real-time information flow increases accounting speed and efficiency, reduces travel miles, and gives drivers greater flexibility to respond quickly to redirected or unexpected orders.

According to the company’s after-action reports, the speed and ease of implementation and deployment were impressive. It took only about four business days to assemble and test the system, format the delivery receipts, and train the drivers. Jason Burger, Rolfson Oil Director concluded: “The new system has been transformative to our business. Our drivers and customers love it and it gives us a clear advantage over larger, nationwide competitors in this market.”
While still in relatively early stages, mobile wireless computing and printing technology will continue to change and evolve based on business requirements and customer demands. Streamlining and automating processes and procedures for field personnel through mobile on-site printing has already proven value by reducing errors, improving workforce efficiency and enhancing customer service.

One key to a successful mobile deployment is careful and thorough planning. Route accounting and other fleet-based businesses need to first determine which operational areas or processes could be improved by automation. The planning phase also needs to consider the costs of components – hardware and software – and anticipate the time and costs of implementation and deployment.

Formulating an accurate cost/benefit analysis will help ensure that the anticipated benefits justify the expenditure of time and resources. Once the commitment is made to forge ahead, it’s important to monitor the implementation closely to prevent cost overruns and mission creep. It can also be helpful to work with an experienced mobile technology partner, especially if a company’s in-house IT resources are limited. An experienced and knowledgeable partner can help the in-house team avoid common pitfalls, select the right components, and navigate any issues that may arise throughout the implementation.

About the Author
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Brother Mobile Solutions

Brother Mobile Solutions is a premier provider of mobile printing solutions for workforces on the go. The growing product lineup includes compact, mobile thermal full-page and small-format thermal receipt and label printers; handheld and desktop laminated label printers; and wide-format, desktop thermal paper label printers.

Brother mobile products division serves a variety of industries including field services, retail, grocery, route, public safety, transportation, oil & gas, and healthcare workforces – all through its network of authorized resellers. Products include the legendary Brother PocketJet Series full page mobile printer, new rugged carry and vehicle mount cases, plus the RuggedJet Series label and receipt printers in 2” to 4” formats with advanced wireless features and rugged functionality.