

# Mobile Solutions Boost Fleet Performance and Profitability



A Frost & Sullivan White Paper  
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## INTRODUCTION

A continued tough economic climate is driving trucking companies to look for new and creative ways to master two critical business challenges: cost control and regulatory compliance.

While wireless fleet management solutions may have been met with some hesitation in the past, it's time to realize that mobile solutions can significantly reduce paperwork, increase productivity, and improve vehicle maintenance and safety. New mobile software products can even streamline onerous government compliance tasks and proactively identify safety issues—letting you address problems well before the government has to step in.

According to a 2010 Frost & Sullivan study of U.S. mobile and wireless purchase decision-makers, an expanding majority (60 percent) of respondent companies recognize the business value of mobile fleet solutions.<sup>1</sup> Those companies that have actually implemented a mobile fleet solution report impressively high levels of satisfaction and real hard-dollar ROI impacts.

Price points have dropped. Capabilities have become more robust. Usability has improved. It's time to move to mobile.

## TWO RELENTLESS CHALLENGES

As we settle firmly into the 21st century, it would be difficult to overstate the continuing importance of our nation's transportation and distribution industry. For just under a century, the trucking segment has transported and distributed goods to a complex network of cities and communities across the country. As a result, trucks and fleets have become a key component of the massive distribution system that supports the U.S. economy and our citizens' current standard of living. In fact, as of 2009, trucks were responsible for delivering about 70 percent of total freight tonnage and reaping 82 percent of total freight revenues.<sup>2</sup> Consider what would happen if this effort came to a standstill.

Clearly, today's trucking industry is a major force in keeping the U.S. economy humming. However, this industry faces an uncertain future, and individual companies are battling on multiple fronts to survive and thrive. With the recession causing thousands of bankruptcies, massive layoffs, and sharply reduced trucking volumes, experts are still looking for the long-awaited turnaround year. Turnaround or not, however, most companies will continue to have to deal with two major business challenges that directly impact a fleet's bottom line—government regulations compliance and ongoing expense control.

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<sup>1</sup> "Adoption of Premium Mobile Enterprise Applications—The U.S. Perspective in 2010"; Frost & Sullivan, November 2010.

<sup>2</sup> "Economic Forecast Says Freight Tonnage Growing After Recession"; American Trucking Association's website, [www.truckline.com](http://www.truckline.com), May 18, 2010.

### **Regulatory Compliance:**

Motor carrier regulations are a fact of life, with government agencies and fleet operators continuously negotiating to a set of win-win rules that help ensure both safety and profitability.

The introduction of CSA 2010 (Compliance, Safety, Accountability) has caused a high level of angst on the part of commercial motor vehicle entities. This new program was introduced by the Federal Motor Carrier Safety Administration (FMCSA) with the goal of reducing crashes and fatalities. It measures the previous two years of roadside violations and crash data for drivers and carriers, scores the individual carriers according to safety level, and intervenes to identify and correct problems before a crash occurs. Seven performance categories are measured:

#### **Behavior Analysis and Safety Improvement Categories (BASICS)<sup>3</sup>**

- **Unsafe Driving**—Operating a vehicle in a dangerous or careless manner.
- **Fatigued Driving**—Utilizing drivers who are sick, fatigued, or in violation of Hours of Service (HOS) regulations.
- **Driver Fitness**—Utilizing drivers who do not have the necessary training, experience, or medical qualifications.
- **Controlled Substance/Alcohol**—Operating a vehicle while impaired by alcohol, illegal drugs, or misused medications.
- **Vehicle Maintenance**—Failure to properly maintain a vehicle.
- **Cargo-Related**—Failure to properly load cargo and/or safely handle hazardous materials.
- **Crash Indicator**—A history of high crash involvement.

Corrective actions for these violations can range in severity, from simply implementing an agreed-upon safety plan to receiving an operations out-of-service order that requires the carrier to cease all vehicle operations.

CSA 2010 encompasses previous Hours of Service regulations, which were devised to reduce driver fatigue, increase alertness, and avoid accidents. While they may continue to be legally contested, the HOS 11-hour driving and 34-hour restart provisions remain in place. Any driver who is driving beyond 100 air miles from his or her home depot has to declare at least seven days of HOS history.

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<sup>3</sup> “CSA—Compliance, Safety, Accountability—Safety Measurement System”; U.S. Department of Transportation, Federal Motor Carrier Safety Administration, [csa.fmcsa.dot.gov/about/basics.aspx](http://csa.fmcsa.dot.gov/about/basics.aspx).

IFTA (International Fuel Tax Agreement) laws constitute another set of mandates. Any heavy truck that crosses state, province, or country boundaries must file IFTA paperwork that declares the number of miles driven in each jurisdiction. The paperwork must also record where the vehicle's fuel was purchased. Then, based on this information, the gas tax portion of fuel purchases is distributed among the various jurisdictions traveled.

Lastly, increased attention is being given to anti-idling laws. In an effort to decrease toxic emissions, these legal regulations also hold the promise of greatly reducing fuel usage and costs. However, as with the other federal, state, and local requirements, these laws also present yet another administrative burden to financially-stretched companies and busy drivers.

### **Expense Control:**

At the same time government compliance requirements are expanding, fleet profitability is on life support. Typical operating margins hover at a miserly 1–3 percent, making expense control absolutely critical to a company's survival. Trucking companies are looking for ways to drive down costs and remain viable in a still-tough, hyper-competitive business climate. Top cost categories are no surprise—fuel, labor, and vehicle wear and tear.

Fuel costs are always a headache, with diesel costs commonly comprising 20–25 percent of expenses for a trucking company. Managing this critical expense category remains a constant challenge. Pricing has stayed volatile, first soaring and then plummeting in erratic cycles that make financial planning an unpleasant adventure.

In terms of labor expense, recruiting and training new drivers can cost between \$5,000 and \$8,000 per new employee. With driver turnover of up to 100 percent, companies never seem to stop spending valuable time and money on training and worker retention programs. Worker shortages—and the accompanying expense—are expected to exacerbate as the economy improves.

The vehicle itself also presents cost control issues. Maintenance expenses—including tire rotation, oil changes, regular servicing—all remain a challenge to effectively manage and minimize. Bad driver behavior—hard braking, speeding, and quick acceleration—can result in premature and expensive wear and tear. These behaviors don't just hurt the vehicle; they can also jeopardize the safety of the driver and the cargo.

Firms that effectively address these two cornerstone challenges—expense control and regulatory compliance—will be best positioned to succeed and lead as our economy heals.

## **HOW MOBILE TECHNOLOGY CAN HELP**

It should come as no surprise that today's mobile technology can help fleets save money and efficiently address regulatory requirements. Early on, the potential benefits of wireless were so significant that the transportation sector was one of the first specific vertical industries U.S. mobile vendors targeted with solutions. Building on that belief, today's

second- and third-generation portfolios present a wide array of products and services that ratchet up your ability to reduce expense, boost efficiency, and proactively address government compliance mandates—all at surprisingly affordable price points.

It's time for fleet operators to revisit their mobility options. During recent years, mobile fleet management applications, mobile devices, and mobile data networks have all been significantly enhanced in terms of capabilities, cost, and ease of use:

### **GPS-Based Mobile Applications**

Unlike the complicated and expensive first-generation solutions, today's fleet management offerings are designed and priced to be used by all sizes and types of trucking companies and fleets—long haul, regional, and local. Canny vendors focus on flexibility by providing software applications in tiered modules that allow you to augment and grow as needed. Capabilities can include:

**Workforce Management**—Real-time visibility into driver behavior, combined with instant information capture, can enhance productivity and actually increase driver safety.

- Embedded *GPS functionality* tracks worker location on both a real-time and historical basis, and typically refreshes this information every 15 minutes (or more often, if needed).
- *Geo-fencing* defines a virtual geographic area and emits an alert if boundaries are crossed.
- *Wireless time cards* provide drivers with the ability to remotely clock in and out, allowing companies to track the time needed to complete tasks and to also gather timesheet data.
- *Wireless forms* allow drivers to quickly collect data, enter information directly on their devices, and then transmit that information to centralized back-office systems.
- Methods of *data capture* can include image/photo capture, electronic signatures, RFID and barcode scanning.

Alone or combined, these workforce management capabilities can maximize productivity and save on fuel costs by reducing the number of stops, minimizing out-of-route miles, and decreasing the paperwork burden.

**Route Optimization and Dispatch**—With driver location easily accessed and analyzed via a Web-based display, dispatchers can communicate real-time job details and task assignments to specific drivers based on truck location, transit time required, inventory levels, driver skill set, job type, etc. This ability translates into more stops with fewer trucks, as well as quick, reliable communication of location and delivery time windows.

**Vehicle Diagnostics**—In-vehicle devices collect a wide range of diagnostic data, including information on hard braking, engine idling, speeding, RPMs, odometer readings, mileage, and fuel efficiency. These data can be summarized and retrieved in report form and can act as an early warning system regarding both vehicle maintenance needs and driver safety performance.

**HOS and IFTA Options**—Specific Hours of Service applications and automated International Fuel Tax Agreement filing transmit all required data from the wireless device to a Web-based report. These optional software packages not only drastically reduce paperwork for the driver, they also increase the accuracy of the data being communicated.

### ***Powerful Wireless Data Networks***

Now-ubiquitous 3G data networks are capable of retrieving more complex information (moving maps, higher-resolution graphics, etc.) and are an important piece of the improved technology landscape that supports mobile application utilization. 4G networks—with even higher data throughput—are now becoming a reality as wireless carriers create and build out this new generation of infrastructure. 4G promises to pull together premium capabilities such as IP-based video, location, and presence.

For transportation companies, these powerful broadband networks can easily upload large files of compliance data, provide high-definition digital surveillance, and even leverage dynamic video streaming to extend corporate webcasts to mobile drivers. With true national coverage, next-generation networks can enable the combination of wireless protocols that work best for a particular driver in a particular work situation, whether it is mobile, land-mobile radio, paging, RFID, and/or Wi-Fi.

### ***Next-Generation Mobile Devices***

Out on the road, drivers need mobile handsets that are rugged, easy to use, and easy to carry. Both smartphone and ruggedized mobile computing device vendors are designing new products to better meet these standards.

At one end of the device spectrum, mobile computer manufacturers Motorola and Intermec have pushed down-market—launching smaller, more “consumerized” versions of their traditional, highly ruggedized devices. These newer handsets are significantly less expensive than their usual high-end counterparts; however, they still meet specific (but lower) drop tolerances and temperature/moisture metrics. They also provide voice, data, GPS navigation, accelerometer, and barcode scanning features that can be used to keep track of inventory, gather customer signatures, and allow quick driver locationing. The Intermec® CS40 and Motorola’s ES400 are both excellent examples of these user-friendly, super-durable, much more affordable next-generation devices.

Traditional smartphones have also been enhanced in terms of both capability and usability. Overall, enterprise-oriented smartphones have enlarged and sharpened their displays, increased their day-to-day durability, enhanced their processing power, and augmented their security mechanisms. All of these developments allow drivers to collect data quickly and easily, saving time and delivering more accurate and actionable information.

A sub-set of smartphone models have even been upgraded to meet some level of ruggedized specs. For those other phones that still may seem too fragile to survive a day in a truck, creative vendors like OtterBox® are designing rugged cases that protect popular models from drops, dust, and shock.

Simply put, mobile device capabilities have expanded while price points have fallen. Add ever more powerful wireless networks and creative software to this mix—and you have mobile solutions that can help keep your company both competitive and profitable.

## **KEY CONSIDERATIONS WHEN CHOOSING A MOBILE SOLUTION PARTNER**

Today's transportation company has an array of potential mobility partners at its beck and call. The software application vendor, or VAR, remains a traditional favorite with larger companies, while small and mid-sized firms may feel more comfortable working with their favorite wireless carrier. Now that they seem to have hit on ways to profitably monetize mobility, systems integrators have also become more involved in this sector. And often the mobile device manufacturer will not only be closely involved in the solution decision process, but act as the lead in pulling together the necessary players to address a company's needs.

Choosing the correct mobility partner(s) is critical to implementing the correct mobility solution. Criteria to consider when selecting a partner would include:

**Breadth and depth of solution portfolio**—There is something to be said for doing one thing very well; however, the majority of prospective customers appreciate being given a choice of solutions and approaches. One size most definitely does not fit all in the transportation industry. The size of your budget, the technological literacy of your drivers, and the type of data and reporting needs you must satisfy are factors that can be extremely company-specific. A best-in-class partner will offer you a selection of alternatives and will also provide you with a solution that can scale to your company's changing and growing needs.

**Pricing model and flexibility**—The major cost components of a mobile fleet solution are the application software, the mobile hardware and peripherals, wireless network connectivity, and any required professional services (typically customization and/or back-end integration work). While larger deployments may still be priced on an annual license basis, the SaaS (Software as a Service) price model is becoming increasingly popular across all sizes of companies. This hosted delivery model enables the company to avoid capex spending—hence, making the mobile solution a more affordable and practical investment.

A SaaS approach has the following features:

- The software application is available on a hosted basis,
- The service is priced and billed on a per-user/vehicle, per-month basis, and
- Software updates are administered automatically across all subscribers and companies.

However, even with a hosted SaaS arrangement in place, customers can balk at the incremental, upfront expense of purchasing or upgrading hardware (handheld or in-vehicle) and of purchasing professional customization and integration services. You should look for a partner that is willing to work with other stakeholders to make the initial required investment more palatable by building some of these additional expenses into the monthly fee, waiving certain upfront costs, and/or offering discounts in return for volume or term commitments.

**Vertical-specific expertise**—Major stakeholders in the mobility sector have recognized for some time that verticalization opens up markets, allows the developer and channel to differentiate themselves, and produces lucrative new revenue streams. As mentioned earlier, the transportation industry has been a favorite target market of mobile players for some time. Given the unique characteristics and needs of the trucking market—especially in the area of government regulation—a deep, thorough knowledge of transportation data requirements is an absolute necessity. Don't let a vendor try to force-fit an under-featured, horizontal solution into your fleet.

**Industry partnerships**—In the U.S. mobile and wireless sector, top-tier partners can add substantial value and expedite deployments. You should expect easy access to the following types of support: needs analysis, ROI analysis, process mapping, solution configuration/integration/customization, employee training, and implementation management. Look for tier-one relationships and the ability to assemble an expert team from the following stakeholder segments: wireless carriers, software developers, device manufacturers, and professional services providers.

**Geographic reach**—Your own business's geographic coverage—whether it's local, regional, national, or global—will dictate your needs here.

**Post-deployment support capabilities**—Mobile solutions are only effective if they are operating properly and can be relied upon in every business situation. The more savvy vendors will work closely (and directly) with you during the initial post-deployment period in order to minimize and address any initial launch difficulties. When choosing a fleet solution and partner, evaluate the post-deployment service and support provisions of the vendor and demand high-quality technical coverage. 24x7 contact center support should be a given. Be very clear on who is handling tier one versus more complex service inquiries. On-site support should also be considered and defined.

**Device and OS agnostic**—While multi-platform capabilities are not particularly applicable to in-vehicle solutions, they are imperative for mobile handheld applications. Instead of streamlining down to one agreed-upon mobile operating system, many of today's U.S. enterprises have actually been expanding the number of device and platform types that are being considered for deployment. Whether it is the BlackBerry®, Android™, Windows® Mobile, or iPhone® iOS system, your potential fleet solution should be able to operate easily on at least two of these alternatives.

Using these selection criteria to choose a mobility partner can positively influence your ability to reduce costs, increase productivity, enhance driver and cargo safety, and satisfy government regulations.

## **THE SPRINT ADVANTAGE**

Sprint has been a pioneer in the fleet management space for well over a decade—assessing potential products, identifying top-tier partners, and assembling a broad solution portfolio. Sprint's deep history in this sector has resulted in an impressive level of experience and expertise.

Current Sprint solutions range from basic truck tracking services to sophisticated telematics capabilities. Application partners have been thoroughly vetted and include vendors Xata<sup>®</sup>, TeleNav<sup>®</sup>, Cheetah Software<sup>™</sup>, and Xora<sup>™</sup>. Depending on a customer's specific needs, these software apps can automate regulatory compliance data collection, conduct and report real-time engine diagnostics, create geo-fences and alerts, and capture barcodes, signatures, and more.

To support these software solutions, Sprint has assembled an impressive lineup of rugged mobile devices, including:

- Embedded laptops that provide full functionality—including Web, WAN/LAN, and e-mail access—and that can resist dust, moisture, shock, and other hazards.
- Handheld rugged computers that provide voice, data, GPS navigation, and barcode scanning all on one device.
- Compact, affordable modems that deliver a high-speed Internet connection.
- Vehicle-mounted devices that track trucks and communicate with dispatchers or office personnel.

Major hardware partners include Motorola Solutions, HTC, Samsung, Sanyo, and RIM<sup>®</sup>.

Sprint recognizes the cost pressures that fleets are under and has made affordability a key priority. A broad range of price points allows customers to choose the investment level that works best for their unique situation and needs. For example, Sprint makes a determined effort to help fleets comply with government regulations without going broke. Case in point: The April 2010 FMCSA rule on electronic on-board recorders specifically cited the Turnpike/Sprint EOBR solution as the most cost-effective way to satisfy HOS regulations.<sup>4</sup>

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<sup>4</sup> "Electronic On-Board Recorders for Hours-of-Service Compliance; Final Rule"; U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Federal Register, April 5, 2010.

Additionally, per-vehicle/per-month pricing is available on many of Sprint's fleet management solutions, and these charges can be included directly on the customer's monthly Sprint bill.

Sprint's fleet expertise, its powerful networks, and the affordability of its solutions can enable expense savings and support regulatory compliance across the U.S.

To learn more about how mobility solutions can help your fleet thrive, please visit [www.sprint.com/transportation](http://www.sprint.com/transportation).

**Sprint Terms:** Coverage not available everywhere. Restrictions apply. **Sprint GPS:** Requires GPS & Java-enabled device. GPS reliability varies by environment. Use without a plan that includes data is 3¢/kb.

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