

10 TIPS FOR SELECTING A GPS FLEET MANAGEMENT SOLUTION

In today's challenging business environment, your company's competitive edge depends on its ability to maximize efficiency and reduce costs while keeping customers happy. A GPS fleet management solution can help you improve mobile worker productivity and increase customer satisfaction while delivering significant savings on labor, fuel and other expenses.

As you look for a GPS fleet management solution that can meet your company's needs and deliver rapid results, there are many factors to consider. To help your decision-making process, we offer the following 10 Tips for Selecting a GPS Fleet Management Solution.

TIPS #1-5 describe must-haves for any GPS fleet management solution provider. These should carry weight in a purchasing decision no matter what type of company you have:

- Demand proven Return on Investment (ROI)
- Find a modular solution for maximum flexibility
- Examine the provider's technology infrastructure
- Evaluate the provider's customer service and support
- Consider whether the provider has a strong history of stability and growth

TIPS #6-10 help you determine what types of solutions make sense given your particular needs as a company:

- OPEX, CAPEX or a combination of the two
- On-demand, on-premise or hybrid solution
- In-vehicle or handset-based tracking or both
- Local or widespread wireless coverage
- Current or future data integration requirements



Average Savings from GPS Fleet Management Solutions

- 27-42% improvement in work order completion
- 28% improvement in fleet utilization
- 9-23% reduction in vehicle maintenance costs
- \$1,055 fuel savings per vehicle, per year

Source: leading independent research firm Aberdeen Group, 2008

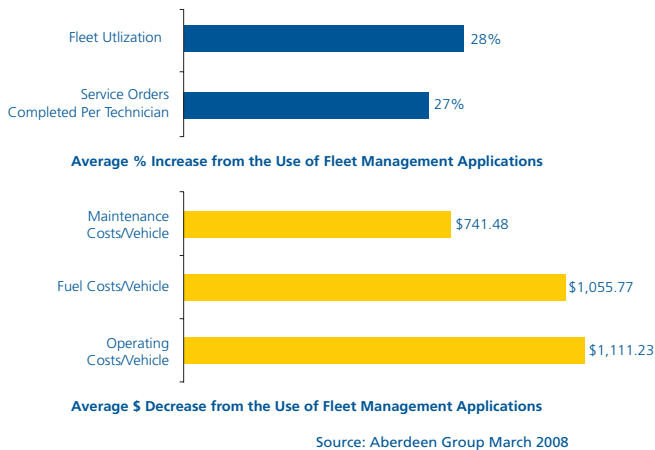


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TIP #1 DEMAND PROVEN ROI

ROI is a critical factor in any business purchasing decision. Ask potential GPS fleet management solution providers about their typical customer ROI and request specific examples. A March 2008 study by industry research firm Aberdeen Group showed an average 27-28 percent increase in productivity and an average cost savings in thousands of dollars per vehicle through the use of GPS fleet management applications. These figures could serve as a comparison benchmark to what is promised by various providers.

Productivity Improvements and Cost Savings Attributed to Use of Fleet Management Technology



Solution Focus:

The typical Trimble customer ROI, based on existing customer data, includes:

- 3-6 month average payback on the capital investment
- Recognized ongoing monthly return of \$2 to \$5 per dollar spent for Trimble services
- 20-50% increase in number of jobs completed per week

Typical Trimble Customer ROI (continued)

- 18% to 43% reduction in fuel, maintenance and other operation expenses
- 9% to 54% reduction in overtime costs
- Improved customer service and retention

Specific Trimble Customer ROI Examples

AT&T (Enterprise-level customer)

- 8% reduction in labor costs
- 12% reduction in fuel costs
- Reduction in number of spare vehicles needed
- Improved management of corporate liability

Beaumont Electric (SMB-level customer)

- Eliminated falsified time sheets for an estimated overtime savings of \$200,000 per year
- Saves an estimated \$24,000+ per year on fuel

TIP #2 FIND A MODULAR SOLUTION FOR MAXIMUM FLEXIBILITY

When looking for the right GPS fleet management solution, you want to make sure your provider has all the components you might need as your business grows, without having to pay for more than you need for your initial deployment. Ideally, you want a full-service, end-to-end GPS fleet management provider that will offer you an "a la carte" menu of options so you can start with what you need now and scale up later.

Advantages of a modular, scalable solution include:

- **Cost savings:** Pay for only those components you need.
- **Targeted ROI:** Determine the expected return on investment your solution offers before you add additional features, or before you roll it out to all regions or parts of the company.
- **Customized configuration:** With a modular solution, it's easier to stay current with the latest technology by upgrading only those components of the solution that are needed.



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An effective end-to-end GPS fleet management solution provides all the hardware, software and services that a business needs to:

- **Manage the mobile worker:** Track work status, time, location, speed, fuel use and driver safety.
- **Manage the mobile worker's work:** Automate service scheduling and dispatch.
- **Manage the mobile worker's assets:** Keep vehicles running in good condition and maintain inventory, equipment and other field assets.

A typical medium-sized company might start with a simple on-demand GPS vehicle tracking system to improve management of its mobile workers, then add asset/vehicle management features like temperature sensors or vehicle diagnostics to achieve further cost savings. The same company may later take advantage of the provider's Application Program Interfaces (APIs) and other professional services offerings in order to integrate the GPS data into its back office applications. If it is a service delivery company, it might add an automated scheduling and dispatch component in order to improve customer service while reducing operational expenses.



To ensure scalability for your future needs, select a solution provider who will offer all these fleet management services plus have established relationships with numerous hardware and software technology providers to extend the number of services, applications and devices that work with its solution. This type of scalable business growth is only achievable through modularity.

Solution Focus:

Trimble offers its GPS Fleet Productivity & Management solutions in service packages, where companies can choose the standard fleet management package and, if desired, add on other packages to gain features like advanced engine diagnostics, automated driver log compliance, advanced safety management, time card reporting, messaging and forms, proof of delivery and more. Trimble automated scheduling and dispatch solutions can be purchased separately or together with Trimble GPS Fleet Productivity & Management solutions.

TIP #3 EXAMINE THE PROVIDER'S TECHNOLOGY INFRASTRUCTURE

A secure technology infrastructure is a requirement. You need to know your solution provider is reliably running and able to store and deliver your data whenever you need it. Be sure to discuss the provider's infrastructure in terms of scalability, availability, system security and data security.

Scalability and ease of expansion: Ensure that a GPS fleet management solution provider can handle not only your business needs now, but any potential growth your business and the solution provider's business may encounter. Questions to ask include:

- How many devices does the provider's system actually manage?
- How many devices can the system manage as the provider's customer base grows?

Availability: Make sure the GPS fleet management provider's system has a high uptime. The goal is a system that has 99.9+% availability, supported by duplicate data centers in alternate locations, power generated backup and a sophisticated emergency response system for unexpected outages.

- Does the provider have at least one redundant data center (more than one set of servers with duplicate data in different locations)?
- What back-up power sources does the provider have?
- What is the system's uptime?



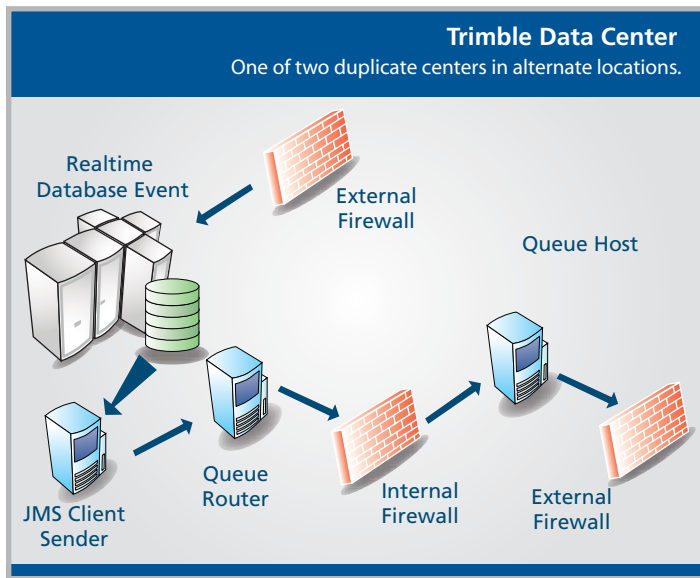
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Security: Confirm that your data will be protected by choosing a GPS fleet management provider with the highest level of security. The best provider will consider its system’s security as an important issue and will have various levels of security measures in place. Ask about the security capabilities of all parts of a solution, from the in-vehicle GPS tracking devices to the data center.

- What level of security is built in to the provider’s in-vehicle GPS tracking devices?
- How is the network protected?
- What measures does the provider take to protect its data center?
- How often does the provider test its security system?
- How often is there a review and upgrade of the security system?

Solution Focus:

Trimble offers an advanced technology infrastructure with industry-leading scalability, 99.9997% availability, security and data storage reliability. The Trimble architecture is designed to support hundreds of thousands of users and millions of transactions reliably, with dual data centers in widely separated locations. Key technology components of our on-demand, on-premise and hybrid solutions are easily scalable to accommodate the needs of our expanding customer base.



TIP #4 EVALUATE THE PROVIDER’S CUSTOMER SERVICE AND SUPPORT

Whether your business is small, medium or Enterprise, you want to know that your GPS fleet management provider will be there to provide quick, expert technical support when problems arise. Ask:

- What is the provider’s implementation plan?
- What type of user guides and other documentation are available?
- Does the provider have best practices guides?
- How are service requests handled?

Data: Make sure that your data is continually backed up, kept private and stored safely. Select a provider that keeps your data behind a firewall and takes precautions to ensure that only authorized people can access it.

- How often does the provider back up customer data?
- Are there firewalls protecting customer data?
- What access and authentication controls are in place to ensure that only authorized people have access to customer data?





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Larger companies can often expect an additional level of support from a provider, such as a single point of contact for management of your account, regular team meetings, an individualized product development plan and periodic reviews to analyze and improve your solution's performance.

Solution Focus:

Trimble sets itself apart from other GPS fleet management solution providers with its extensive customer service and support organization. All customers receive personal attention by highly trained staff through our 24-hour online Service Request system. Customers also receive best practices guides and extensive product documentation. Large accounts receive additional support, with a single point of contact, regular team meetings and periodic business reviews to ensure you're getting the most out of your fleet management solution.

TIP #5 LOOK FOR A PROVIDER WITH A HISTORY OF STABILITY AND GROWTH

Especially in today's uncertain economy, a crucial part of a purchasing decision is to consider the stability of the solution provider. You want some assurance that your solution will be supported for many years to come. Be sure the provider has a long history of service, reliability and financial stability. Look at providers that offer a strong value—not necessarily the lowest price.

Solution Focus:

Trimble GPS fleet management solutions are backed by the company's history of financial stability, technological innovation and market leadership. Founded in 1978 as an early GPS pioneer, Trimble has grown steadily as a location and positioning technology leader with a track record of consistent financial performance and more than \$1 billion in revenue (NASDAQ:TRMB). Trimble has a substantial customer base and extensive experience in both large and small deployments.

TIP #6 CONSIDER YOUR CAPITAL EXPENSES AND OPERATING EXPENSES

Capital Expenses (CAPEX)

A capital expense (CAPEX) is usually an up-front cost that you need to pay at the time of ordering or implementing a solution. For a GPS fleet management solution, capital expenses can include the following:

- **In-vehicle hardware:** The part of the solution that captures GPS location data and sends it to the data center via high-speed wireless connection.
- **Data center hardware:** The servers that host and process the information coming from the in-vehicle hardware.
- **Enterprise and supporting software:** The software that turns this data into easy-to-read reports, maps and schedules for use in managing their mobile workers.
- **Customized reports:** (if needed) Reports tailored to the needs of your organization.
- **Custom integration:** (if needed) Integration with existing back office applications.

At first look, the number of capital expenses can seem overwhelming, but some GPS fleet management services offer a monthly payment program for hardware and software. Unless customized reports or integrations are required—which is usually only the case for very specialized or large businesses—a business can implement a GPS fleet management solution with little to no up-front capital expense.





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Operational Expenses (OPEX)

An operational expense, or OPEX, is a longer-term expense that is paid as part of the ongoing cost of running a business. For a GPS fleet management solution, operational expenses can include:

- **Monthly service costs:** Subscription fees for on-demand solutions that have a pay-as-you-go model.
- **Financing:** Where hardware and service have been broken down into a monthly expense rather than an up-front capital expense.
- **Data storage:** For companies with large amounts of historical data that must be saved longer than a standard 90-day period.

Since operational expenses are worked into a company's ongoing budget, any purchasing decision needs to be evaluated against whether its value to the company is worth the ongoing operating expense. For a GPS fleet management solution, consider whether the OPEX costs involved will be less than the ongoing savings achieved.

Solution Focus:

Many Trimble fleet management solutions are OPEX based, meaning there's little up-front capital expense. Hardware costs can be set up as an initial CAPEX or spread out to monthly payments through a leasing plan.

TIP #7 WEIGH ON-DEMAND VERSUS ON-PREMISE SOLUTIONS

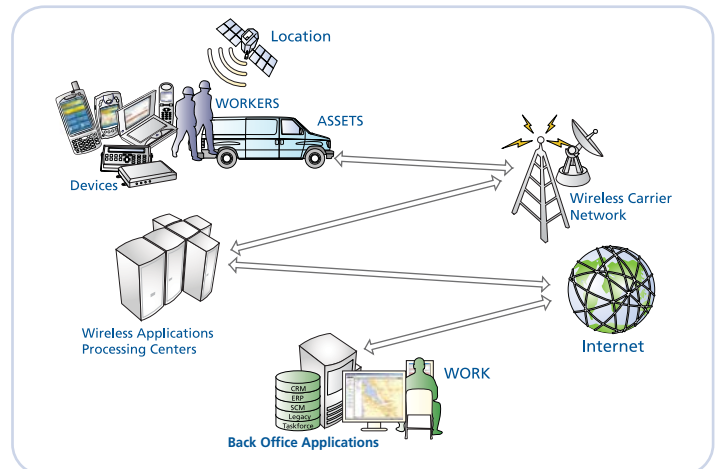
Any complete GPS fleet management solution includes software that is available in one of two ways: on-demand, meaning you access it using a standard web browser on any computer with an Internet connection, or on-premise, meaning the software is installed on a company's server and is available through the company's network. Each type of software hosting and solution access offers different benefits.

On-Demand

On-demand software is hosted on the servers of the solution provider and made available to customers via the Internet. On-demand software is also referred to as SaaS (Software as a

Service). An on-demand software provider may also be referred to as an ASP (Application Service Provider).

On-demand is a very secure, cost-effective and commonly used method of delivering fleet management software. Since the provider is hosting the solution, customers don't have the up-front cost of buying and installing software or purchasing new server hardware to host the solution themselves. You simply log on to the software through the Internet using the computer system you already have.



On-demand solutions are hosted on the service provider's servers and accessed via the Internet

Other advantages of on-demand solutions include:

- **High availability and uptime:** If the on-demand solution provider has a robust network with high redundancy, you should experience much less downtime with your solution than if you hosted it on-site.
- **Immediate upgrades:** The solution provider will incorporate new technology as it becomes available so you don't have to take the time and expense of making changes on your own system.
- **Accessible by multiple users:** Many users can access on-demand software at the same time from different locations.
- **Accessible at any location with Internet access:** With on-demand solutions you can access the software and view reports through any standard web browser; you don't have to have a secure VPN (virtual private network) connection to your back office systems, as you would with on-premise solutions.
- **High level of security:** SSL 128-bit encryption is the leading industry standard for protecting information transferred online. Be sure this is what is used by your potential solution provider.



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- **Subscription pricing:** Since on-demand solutions are subscription based, they become an operating expense with differing subscription options rather than an up-front capital expense.

On-Premise

On-premise GPS fleet management software is purchased, or “licensed,” from the solution provider and installed either on your company’s own server or on servers provided by the vendor. Building your own back office hardware to host an on-premise fleet management solution is a significant up-front capital expense. And with an on-premise solution it’s up to you to manage all upgrades and maintenance, so you also have ongoing development, upkeep and operational expenses.

On-premise GPS fleet management solutions have the following advantages:

- **On-site storage of GPS fleet data:** When you host your solution on your own servers, you determine how long reports and data remain available on your server.
- **On-site security:** When your solution is hosted at your own location, you are in charge of its security and can keep the data behind your firewall.

Companies that choose an on-premise GPS fleet management solution are often those that require their information to be behind their own firewall, such as public safety and government, or that have a need for complex on-premise applications like advanced scheduling and dispatch automation. Because on-premise solutions require a significant up-front investment and ongoing IT management staff, companies usually only choose this software licence model if their needs outweigh the added costs. Or a company may choose a “hybrid” solution that has an on-premise component combined with web access.

Solution Focus:

Trimble offers on-demand and on-premise solutions to meet the GPS fleet management needs of a variety of businesses. Trimble GPS fleet tracking systems include Trimble GeoManagerSM, a robust on-demand solution with numerous features and options for vehicle management, and Trimble TrimViewTM, an on-premise solution. Trimble scheduling and dispatch systems include TaskforceTM, an Enterprise-class, on-premise, automated scheduling and dynamic dispatch solution, as well as Trimble FS, a hand-held solution for GPS tracking and dispatch.

TIP #8 EVALUATE WHETHER YOU NEED IN-VEHICLE OR HANDSET-BASED GPS TRACKING OR BOTH

GPS vehicle tracking is one of the key components in a GPS fleet management solution. GPS positioning data can be gathered through an in-vehicle device or a handheld device. It is important to be sure of your needs when evaluating solutions, as the options are significantly different.

In-Vehicle GPS Tracking

With this method, a vehicle-installed device continually captures GPS information and immediately sends it via high-speed wireless connection to the GPS fleet management software.



Benefits of an In-Vehicle Device

- **Tamper-proof:** It can’t be moved or manipulated without showing signs of tampering.
- **Always recording:** It’s on whenever the vehicle is on and reports daily status messages even when the vehicle is off.
- **Rugged:** It’s built to withstand shock, vibration, high or low temperatures and other elements of a rough work environment.
- **Information hub:** It serves as an onboard computer system that not only gathers data, but stores and processes it before transmitting it wirelessly to the solution provider’s data center.



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- **Wi-Fi capability:** Some in-vehicle devices can serve as an Internet access point for a Wi-Fi equipped mobile computer, enabling easy access to online applications or to back office applications if the driver's computer is VPN-enabled.
- **Vehicle diagnostics capability:** Many in-vehicle devices retrieve information directly from the engine using OBD II or J-bus connections for remote vehicle diagnostics. Such engine information helps companies manage drivers with excess engine revving, engine idling or hard braking to save on fuel costs. It also helps companies know the health of their vehicles and engage in preventative maintenance before costly breakdowns occur.
- **Remote management and upgrades:** Many in-vehicle units can be managed remotely without pulling the vehicle off the road or scheduling after-hours maintenance. Whenever a new security patch or application feature is available, it can be added through Over-The-Air-Programming (OTAP) rather than requiring the purchase and installation of a new unit. Other changes that can be managed through OTAP include changing pre-set data collection intervals or firmware.
- **Powerful reception:** The high-quality antennas that are installed along with in-vehicle hardware can provide more powerful and consistent reception than a handset-based device.

Limitations of an In-Vehicle Device

- **Installation:** An in-vehicle solution must be installed in each vehicle in a company's fleet.
- **Cost:** An in-vehicle device is more expensive than a basic GPS-enabled phone. Companies must also consider the cost of installation.

Handset-based GPS Tracking

With this method, a GPS-enabled mobile phone is the mechanism that gathers GPS data and sends it to the fleet management software.

Benefits of a Handset Device

- **Potentially lower entry cost:** A basic GPS-enabled mobile phone is generally cheaper per unit than an in-vehicle device.
- **Quick to deploy:** Since handset-based solutions do not need to be installed in vehicles, they can be used to get a GPS fleet management solution up-and-running quickly.
- **Built-in messaging and other features:** GPS-enabled phones can also be used for messaging and other communications.

Limitations of a Handset Device

- **High cost of ruggedized units:** In rough work environments where there is exposure to dirt, sand or water, or where the device may be dropped, a standard GPS-enabled mobile phone may need frequent replacement. An upgrade to a ruggedized handset may cost as much as or more than an in-vehicle device.
- **Data delivery issues:** When the handset loses battery power or is turned off, it no longer delivers the GPS location data.
- **Easily manipulated:** Drivers can easily manipulate the GPS tracking intent by turning off the handset or leaving it at one location while traveling to another location.
- **Short product lifecycles:** Handheld technology changes so frequently that upgrades may be needed more often than with an in-vehicle device.

Solution Focus:

Trimble offers various options for in-vehicle and handset-based GPS fleet management solutions; you can even combine the two to meet the needs of different types of mobile workers within the same company. Trimble offers in-vehicle options with integrated Wi-Fi or vehicle diagnostics. Trimble handheld solutions use a variety of GPS-enabled handsets, including ruggedized versions, from different wireless carriers. Using Trimble solutions with a handset, you can turn the GPS tracking feature on even if the driver or field technician turns it off.





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TIP #9 CONSIDER YOUR COMPANY'S WIRELESS COVERAGE NEEDS

Every GPS tracking solution works with a wireless network for the high-speed transfer of GPS data between the in-vehicle or handset tracking unit to the fleet management data center and software.

Some GPS fleet management providers use just one wireless network, but single-network coverage has disadvantages.

Single-Network Disadvantages

- Your coverage is limited to a single wireless network.
- If you want to take advantage of high-speed upgrades (like 2G to 3G) you have to wait until your wireless network supports that technology.
- You will be limited if you want to expand your business into other regions that are not covered by that wireless network.



A Multi-Network Approach is Best

Choosing a GPS fleet management solution provider that works with all or most major wireless networks will give you the most widespread coverage, both for your existing communication needs and future needs. As your business expands, you want to have access to a wireless network in every region in which you might have drivers or field technicians. With a multi-network approach, you not only achieve the maximum wireless coverage for the areas where your vehicles are traveling, but you also have access to the latest technology offered by each of the major networks. A good GPS fleet management solution provider will also have agreements

with wireless networks in other countries to support your business internationally.

Supplement Wireless Coverage with Satellite

Even with the widespread coverage that is available through a multi-carrier network, some companies may have mobile workers in remote areas where there is no wireless coverage. To accurately manage your mobile workers and vehicle locations in these situations, you want to have the option of a satellite modem, which enables the delivery of GPS data to the fleet management system even when vehicles are outside wireless coverage areas. Satellite delivers information more slowly than the typical high-speed wireless network and the per-minute charge is more expensive, but it's a good option for the times when it's the only way to deliver current data to managers and dispatchers. Most satellite modems are reserved for use only when the mobile device is outside wireless coverage areas.

Solution Focus:

Trimble offers multi-carrier coverage in the United States and Canada, as well as coverage with major carriers in the United Kingdom and Australia. Trimble also offers a satellite modem to ensure delivery of GPS data when vehicles are outside wireless coverage areas.

TIP #10 DETERMINE WHETHER YOU NEED DATA INTEGRATION CAPABILITIES

Does your business have ERP (Enterprise Resource Planning), CRM (Customer Relationship Management), accounting or other back office applications that you'd like to integrate with your GPS fleet management solution? If so, you want to choose a GPS fleet management provider with an experienced in-house professional services group that can evaluate your needs and develop the best course of action for integration.

Through its professional services group, your GPS fleet management provider should be able to offer APIs (Application Program Interfaces) and direct data feeds, as well as have the ability to create custom integrations, so you can use your fleet data in your existing applications. Ask about the provider's experience doing such



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integrations to be sure they have the proven methodology and in-house technical staff to complete your integration needs with minimum disruption to your business.

To complete the cycle of an effective custom implementation, be sure the GPS fleet management provider offers training services to quickly bring your employees up-to-speed with the new technology.

Solution Focus:

Trimble GPS fleet management solutions can be integrated with your existing back office applications using standard APIs, direct data or custom integrations. The Trimble professional services group offers a proven methodology and various expert implementation packages to take care of your data integration needs.

SUMMARY

A GPS fleet management solution can be a great asset to your business, helping you lower fuel costs, maintenance, overtime and other expenses while improving customer service and maximizing the productivity of your drivers and field technicians. The degree to which your company realizes these benefits will depend on the quality of your GPS fleet management solution.

Our 10 Tips for Selecting a GPS Fleet Management Solution offer an outline of what to look for as you search for a high-quality provider. Once you've weighed these 10 tips and interviewed the solution providers you're considering, you can choose a GPS fleet management solution with greater confidence of it bringing about the desired cost savings and mobile workforce productivity benefits promised.

Solution Focus:

The highlighted sections of this paper have provided examples of how Trimble GPS Fleet Productivity & Management solutions offer the modularity, secure technology infrastructure, leading customer service, financial stability and proven ROI that is ideal for any type of company looking to purchase and implement GPS fleet management solutions.

For more information about Trimble solutions, visit www.trimble.com/mrm or contact your Trimble sales representative at MRMsales@trimble.com or 1-877-728-7623.



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Trimble MRM
47071 Bayside Parkway
Fremont, CA 94538
Tel: 1-877-728-7623
www.trimble.com/mrm

Trimble MRM, Ltd. (EMEA)
North Felaw Maltings
48 Felaw Street
Ipswich IP2 8PN, United Kingdom
Tel: 44 (0) 1473-696-300
www.trimble.com/uk

Trimble MRM (APAC)
Trimble Navigation Ltd.
A102, 244 Beecroft Road
Epping NSW 2121, Australia
Tel: 61 (2) 98127900
www.trimble.com/mrm

Trimble MRM (China)
311 Fute (M) Road
Wai Gaoqiao Free Trade Zone
Pudong, Shanghai 200131
Tel: 86-21-5046-4200
www.trimble.com.cn