A large silver tanker truck is the central focus, parked on a dark surface. The truck's cylindrical tank is highly reflective, mirroring the vibrant orange and yellow hues of a sunset sky. The sky is filled with soft, wispy clouds, and the sun is low on the horizon, creating a warm, golden glow. In the background, the white cab of another truck is partially visible. The overall scene is a dramatic, low-angle shot of industrial machinery against a beautiful natural backdrop.

## Getting on board with fleet intelligence

Improve your driver safety, financial performance and environmental record with on-board technology and risk management tools



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To help mitigate both driver injuries and unexpected financial losses, many fleet managers are adopting on-board surveillance systems, also known as fleet safety telematics.

Fleet managers in today's energy-focused companies face a complex challenge: how to balance the safety of drivers while reducing the financial risks of increased operational and environmental regulation. The first priority for most companies is to put human safety and lives first to create a more positive company culture. At the same time, financial pressures continue to intensify, including:

- Escalating fuel costs
- New government regulations
- Environmental claims stemming from a fleet spill

To help mitigate both driver injuries and unexpected financial losses, many fleet managers are adopting on-board surveillance systems, also known as fleet safety telematics. According to the U.S. Federal Motor Carrier Safety Administration, the most common causes for fleet vehicle collisions are inadequate driver surveillance, driving too fast for the conditions and speeding around curves and turns. These behaviors result in billions of dollars lost each year due to employee injuries, lost productivity, fines, asset damage, litigation and poor fuel economy while also contributing to excessive CO2 emissions.

Unlike workers in other industries, fleet drivers work in virtual isolation. So implementing a worker safety program that can be monitored by managers in-person is almost impossible except by the use of on-board technology. Although telematics has been available for several decades, new technologies are now available that provide objective measures of driver behavior and continuous measures on a wide variety of driving behaviors that were previously unavailable to fleet managers.

Virtually any fleet operation can benefit from the adoption of a fleet safety telematics solution, but telematics are particularly important for fleets with propensity for higher severity losses, like oil and gas. With more than just property at stake, oil and gas fleet accidents can lead to severe injuries, casualties or considerable reputational damage.

### Collecting critical driver data with telematics

Telematics is the general term used to describe on-board systems that combine GPS sensors with wireless communication, computer capabilities and sometimes even video recordings. Fleet owners and operators can obtain extensive information and intelligence from these systems including vehicle location and performance, driver behavior and a wide range of other data points. When extrapolated and analyzed, this data provides fleet managers with information that can help reduce collision risks for drivers, improve fleet performance and ensure compliance with regulations.

A telematics system typically provides output based on its:

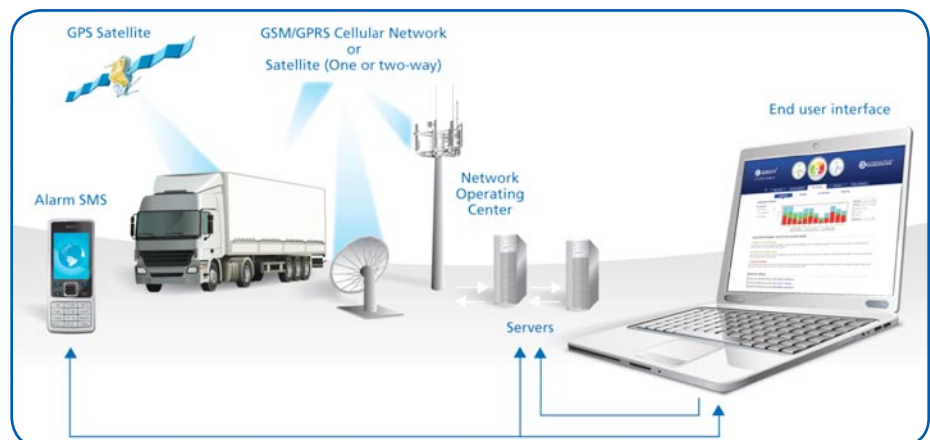
- Monitoring of vehicle speed
- Measuring the forces exerted on the vehicle during various driving maneuvers such as turns, starts and stops; some advanced systems go further to automatically recognize risky driving activities
- Providing in-vehicle visual and/or audible feedback to alert the driver of unsafe maneuvers and provide a general indication of driving performance (not available with all vendors)
- Reporting scores for individual drivers as well as a composite score for the fleet based on company-set parameters
- Comparing individual driver scores to the average scores for the fleet

Fleet managers can choose from a variety of telematics providers. However, whatever solution is selected, it's important to remember that data alone is of minimal value. To improve driver safety, control operational costs and reduce environmental impact, the data must be analyzed by risk management specialists. Expert analysis can help provide more effective driver training and counseling programs that instill a culture of safety and responsibility.

Al LaCombe, of Dupre Logistics, an energy distribution and logistics company, explains that for his company, meeting the basic safety regulations imposed upon the trucking industry is not enough. "First and foremost, our mission is about getting our drivers home safely and in a timely fashion, which often means going above and beyond what the regulations impose." LaCombe, Director of Safety and Security at Dupre, explains, "We believe that our fleet operation can be safe and profitable at the same time. Telematics has guided us in making decisions that ensure the safety of our drivers, while also balancing our needs of operational efficiency and profitability."

All of Dupré's 726 drivers understand that the telematics data is not a punitive tool, but the foundation on which to improve driver safety programs and reduce excessive fuel consumption. "In short, telematics is a win-win for the employee and the company," LaCombe says.

**Exhibit 1: Telematics device feeds real-time data to end users**



## Financial benefits of telematics

According to U.S. Department of Transportation and U.S. Department of Energy, driver behavior contributes to more than 90% of vehicle crashes and up to 33% of fuel consumption. Clearly, getting at the root cause of driver behaviors that lead to accidents and excess fuel consumption is critical. Based on studies of fleets using telematics tools and analysis of vehicle data, up to 20% fewer vehicle crashes were reported.\* This resulted in lower direct costs of vehicle repairs, liability to third parties, replacement vehicles and injuries to drivers. Telematics also reduce indirect costs such as brand reputation damage, lost customers and management time.

A similar study\*\* revealed that telematics resulted in up to 10% lower fleet operating costs by optimizing journey planning and vehicle deployment, reducing vehicle and driver redundancy, as well as overall vehicle running costs and downtime. Fuel savings averaged between 8% and 11%, and fleets experienced less wear on tires, brakes and other components.

Many insurance carriers recognize the safety and financial benefits of telematics-based driver safety programs. In particular, this data helps underwriters better understand a company's unique exposures, and assign premiums according to specific characteristics of the risk. The use of telematics solutions combined with risk improvement measures, can potentially drive down loss rates and insurance costs.

"The investment in telematics is well worth the cost of what can happen to a driver, our equipment and premium costs," says Al Lacombe. Industry has taken note. In 2010, National Tank Truck Carriers (NTTC) association recognized Dupré Logistics for excellence in safety at the annual NTTC conference in Chicago.

Lacombe also points out that keeping a driver's record safe is also a cost control, as re-hiring a driver typically costs the company \$7,000. "It's tough to find good drivers out there. We want to keep ours, and telematics helps us do that."

## Additional benefits for oil and gas fleets:

- Oil and gas fleets typically transport large, heavy loads that can lead to increased severity in the event of a crash. Telematics can provide the most effective routing options to help these vehicles find less traveled highways and roads.
- Often oil and gas loads involve transportation of hazardous materials. Accidents involving such fleets can lead to costly pollution claims, which – depending upon the area impacted – could result in a major reputational setback. Fleet intelligence will help provide more immediate diagnosis of a spill and allow for a faster clean up and resolution.
- The cost of a drilling rig is based on a daily rate. If a rig is shut down waiting on missing components, rigging tools or other critical inventory to arrive, that translates into unproductive time and money. Knowing where and when such components are can help reduce roadblocks and increase efficiency.
- Lastly, as the cost of commodities continues to rise in the current economy, there can be an increased potential for highjacking incidents to occur. Telematics and fleet intelligence can provide energy firms with added security in the event of theft of expensive cargo.

## Fleet intelligence in action

Zurich Fleet Intelligence is a program that integrates technology with risk management best practices. It offers a range of services including a preferred list of telematics providers, technology and installation support, online reporting and analytic capabilities, risk engineering services and other management tools to create effective driver development programs.

Here are the results from two customers deploying Zurich Fleet Intelligence services:

### 100-vehicle fleet in UK:

- 60% reduction in safety-related events
- Return on investment in 7.5 months
- 10% reduction in fuel consumption
- Reduction in CO2 emissions

### 200-vehicle fleet in the U.S.:

- Increased safety:
  - 30% fewer crashes
  - 25% reduction in speeding events
- Fuel economy:
  - 5% less engine idling
  - 13% reduction in fuel consumption
- Reduction in CO2 emissions

## Regulatory and legal benefits of telematics

Fleet managers are facing tougher safety regulations under the new Compliance Safety Accountability program (CSA), a new regulatory program implemented by the Federal Motor Carrier Safety Administration (FMCSA). This initiative makes fleet operators more accountable for their drivers' safety performance.

The new CSA Safety Measurement System allows detailed information about a fleet's safety performance be shared with the public. Fleets will be scored relative to their peer group in each of seven Behavioral Analysis and Safety Improvement Categories (BASICS) covering: unsafe driving, fatigued driving (hours of service), driver fitness, controlled substances/alcohol, vehicle maintenance, cargo-related and crash indicator (crash patterns/history). Drivers' safety violations will have a more central impact on CSA scores. A bad rating under CSA could mean lost business, higher insurance rates, fines, criminal penalties, or even shutdown of a fleet's operation. This new regulation increases the need for management to provide effective safety training for their drivers, something a comprehensive fleet intelligence program based on telematics analysis can provide.

In addition, telematics can be a strong defense in lawsuits that arise from collisions. In the event of a crash, telematics data provides specific evidence on the cause and severity of impact, which can help fight off fraudulent claims.

## Comprehensive program, targeted actions

As mentioned previously, data for data's sake alone doesn't lead to fewer accidents or improved operational costs. An effective driver safety approach is one that integrates on-board technology with risk management best practices. The main components of a comprehensive fleet intelligence program include:

- Robust reporting and analytics
- Key risk identification
- Tools to track and manage key risk exposures
- Development tools to educate drivers
- A structured plan to make safety part of the long-term corporate culture

By identifying key risk exposures, a fleet manager can focus time and resources on the exposures that are most significant, and target actions that will produce the greatest impact on driver safety, operational costs and environmental impact.

Driver safety is the foundation to fleet success on many levels: personnel, operational, financial, environmental and reputational. A comprehensive fleet intelligence program can deliver the reporting, analytics, tools and plans to create a culture of "safety first" and long-lasting results.

## Zurich

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\* Based on subsequent review, analysis and conclusion of GreenRoad Technologies' study on crash reduction as referenced by Zurich U.K. underwriters and pricing actuaries. For more information on crash study, see also the June, 2010 study by DOT Federal Motor Carrier Safety Administration: "Evaluating the Safety Benefits of a Low-Cost Driving Behavior Management System in Commercial Vehicle Operations."

\*\* Based on generic studies conducted by GreenRoad Technologies from data derived from their U.S. and European Operator.

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