

Fleet management for enhanced driver and road safety

The statistics are stunning. 94 percent of vehicle collisions involve driver error and are largely preventable, says the US National Highway Traffic Safety Administration (NHTSA). Some of the leading causes include distracted driving, driving under the influence, driver fatigue and speeding.

With large trucks and buses, it's a similar story, with driver behavior accounting for almost 90 percent of accidents.

With smartphones and connected car technology becoming more prolific in recent years, the trend is expected to continue—traffic deaths in the U.S. rose 5.6 percent in 2016, while fatalities involving large trucks increased by 5.4 percent for a decade high, says the NHTSA.

Whether you manage a fleet of light or heavy-duty vehicles or oversee a mobile workforce, implementing a comprehensive fleet safety program will help you reduce vehicle crashes, protect lives, improve driver satisfaction and retention and achieve significant operational improvements and cost savings.

In fact, a study by the U.S. Department of Transportation showed a 50 percent reduction in unsafe driving events—speeding, sudden acceleration and hard braking—among drivers who were monitored and coached by in-vehicle monitoring systems. According to the same study, telematics solutions used in conjunction with new vehicle

safety technologies such as lane departure warning, collision warning and active braking systems, can help fleets reduce vehicle crashes by 20 to 30 percent.

Background

While there are many fleet management solutions available on the market that can help prevent or at least reduce vehicle collisions, most are designed to meet the needs of specific market segments like small and mid-sized vehicles, large transport trucks, construction or mining vehicles, or to specific geographies. But even with this level of customization, there are many markets and geographies where an off-the-shelf solution doesn't meet customer needs.

Situation

In this case study, Machinestalk an ORBCOMM partner, had a customer who wanted to create a safe, productive and human-centered working environment for company employees who move between their industrial production facilities. They wanted to ensure that staff were safe and secure when driving between locations.

“ORBCOMM’s field application engineers helped us to meet tight customer deadlines and exceed customer expectations by working closely with us and allowing us to leverage their technical expertise.”

Nawaaf AlShalani, Group CEO, Machinestalk

The customer had a set of stringent requirements for the solution. First and foremost, the solution had to be in Arabic, it needed to work in all regions of a country where cellular coverage was known to be spotty, use a specific VPN method for data acquisition and required some specific custom filters and reports. Finally, government regulations required data to be stored in-country. Clearly, a custom solution was required.

Solution

Working with ORBCOMM engineers, Machinestalk developed a solution that combined an ORBCOMM dual mode satellite/cellular terminal with an integrated seatbelt sensor and an immobilizer installed on the fleet of vehicles. The dual mode terminal features built-in GPS and an accelerometer for location tracking and harsh acceleration/deceleration monitoring. The terminal monitors vehicle activity and reports back to the Machinestalk’s comprehensive and scalable IoT platform. The platform’s user experience is in Arabic and customized to meet the customer’s data acquisition requirements and stores all data locally to meet government requirements. The solution monitored all driver behavior and recorded all misconduct, (for example sharp cornering, speeding, harsh braking, unbelted driver) during driving to make sure all drivers followed safety and security procedures. By tracking driver behavior, management could coach drivers to improve their driving and reduce accidents.

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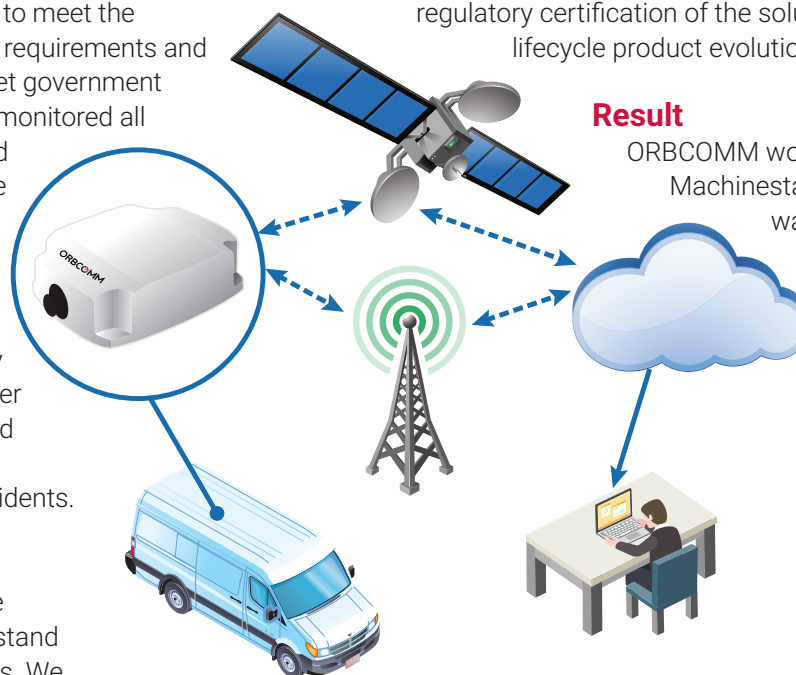
ORBCOMM worked with the Machinestalk to fully understand the customer’s requirements. We provided development and quality

assurance resources to design, code and test the terminal software. By using our Automatic Vehicle Location (AVL) app, we were able to start from a solid software base and then customize to the requirements. Using the AVL app saved us months of development time and ensured we could help Machinestalk meet a tight schedule.

Since Machinestalk intended to sell this solution to multiple customers, we modified the AVL app to ensure the terminal software was flexible enough to handle different requirements with only configuration changes.

Machinestalk integrated the ORBCOMM terminal into their comprehensive and scalable IoT platform. The platform meets both customer and local regulatory requirements.

Initially a proof of concept was delivered to the end customer and we provided onsite support for the trial. Once the trial proved successful, ORBCOMM assisted with regulatory certification of the solution and provides ongoing lifecycle product evolution and support.



Result

ORBCOMM worked hand-in-hand with Machinestalk to ensure a solution was developed that exceeded the customer’s needs. Real-time location and driver behavior data significantly improved the safety and security of drivers. By providing driver feedback, the customer reduced misconducts during driving, detected unauthorized vehicle usage, and was able to monitor safety policy across all drivers.

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