

DriveCam (Case Study)

Company Overview

DriveCam is a driver risk management company that reduces claims costs and saves lives by improving the way people drive, specifically in commercial and government fleets. Combining technology, expert analysis and a holistic managed service program, DriveCam strives to mitigate risk by improving driver behavior and assessing liability in collisions. The company helps to reduce vehicle damages, workers' compensation and personal injury costs by more than 50 percent by capturing sight and sound in the vehicle whenever a risky driving situation occurs. The company provides event analysis and driver feedback to its customers delivering proactive risk management practices. To accomplish this feedback in an accurate and timely manner so that drivers can be coached about their risky behaviors, DriveCam sought an enhancement to their solution that would help them more effectively associate the correct driver with their own risky driving events.

Launched in 1998 as the result of a road rage incident, DriveCam employs behavior modification expert Bruce Moeller to focus on improving risky driving behavior through proactive recording, analysis and continuous feedback on actual driving events. DriveCam has received four patents for its innovative design with additional patents pending. The company has received numerous accolades to include the Most Innovative New Product Award by the prestigious University of California San Diego CONNECT; featured in Inc. Magazine's Inc. 500 List as one of the fastest-growing, privately held companies in the U.S. for three consecutive years; and named a finalist in the San Diego AeA's software innovator's category.

The Problem

One only need to visit the U.S. Department of Transportation website (<http://www.dot.gov>) to see how much data, analysis, and measurement goes into understanding transportation in our daily lives. There are countless statistics on a number of topics

to include number of injuries, fatalities, traffic congestion by state/year, cost analysis by mode of transportation, environmental impacts, gas/oil usage, as well as data by age and household. The list goes on, but the point is that we spend a great deal of time understanding the multi-faceted industry of transportation and DriveCam has built a business collecting and assessing the statistics to help transportation fleets better understand driver habits and safeguard the road we travel everyday.

DriveCam targets large fleet vehicle systems and operates on the principal that driver behavior directly impacts safety records and operating costs. DriveCam quickly found out that by simply improving driver behavior, they could impact a fleet's bottom line through mitigating risk and reducing the costs associated with unsafe driving patterns. Furthermore, though black boxes are becoming more common, the technology as it stands today falls short. A black box can capture vehicle data, but does so without the critical elements of sight and sound. Whether the driver is involved in an accident or is trying to be proactive in driving habits, the before and after visual and audio elements matter a great deal when analyzing data. Since a black box, is only activated in the event of a crash, fleet analysts have little insight into the potentially hundreds of risky behaviors that are occurring on the road every day.

DriveCam's solution takes a proactive, preventative approach and works to prevent risky driving so that those behaviors are identified before an actual crash occurs. To improve the accuracy in their review process, DriveCam approached Texas Instruments to help them rapidly develop a cost-effective, durable driver identification system. Soon after deployment of their managed services, DriveCam experienced an increase demand for the new service offering which allowed clients to offload management of the day to day program to DriveCam's team of experts. Under DriveCam's initial solution design, identification of a driver was being performed through a manual process, but with the rapid customer growth, the manual system

needed to be replaced with an automated authentication process for more rapid, accurate event review and reporting.

Solution

To capitalize on the growth and provide efficient and timely data reports DriveCam sought to expand its initial product feature set and include an automated driver authentication function. Driver coaching is key to success of the program, but driver turnover rates of up to 40% annually make driver identification difficult. In its first generation, DriveCam analysts relied on physically identifying a person via video or photo. But this proved difficult due to the number of shift changes and vehicle rotations a driver makes or simply the uniform or hat that a driver might be wearing that made it hard to distinguish facial features.

“It is important to match up the appropriate driver and vehicle because our customers want to know who, what, when, where about their vehicles and drivers. That becomes especially key when our customers have hundreds of vehicles multiple shifts using one vehicle and high driver turnover,” said Sue Greenway, VP of client experience, DriveCam. “DriveCam analysts are analyzing hundreds of risky events a day which means the driver has to be quickly and accurately identified. RFID provides an easy method for implementing, managing, and distributing the driver identification Using RFID is has an added advantage because it is environmentally tolerant to dirt, oil, liquid, etc. so we can support our clients in a wide variety of industries.”

The company knew that automated identification was critical for company growth and customer satisfaction so DriveCam turned to TI’s RFID Systems Group to meet their authentication requirements. Going to TI also meant DriveCam did not need to overhaul their already popular and trusted design, but would have a plug and play solution. DriveCam trusted TI to deliver inside their time to market window as well as TI’s RFID expertise demonstrate through TI’s leadership in RFID. TI provided a wealth of technical support in the way of preliminary datasheets, samples and applications design support throughout DriveCam’s development. This support included working very closely with DriveCam by reviewing schematics/layouts, making card reader design suggestions and evaluating the design tradeoffs associated, and the actual base firmware code and

support. TI’s support, technology performance, high level of integration and small system size helped DriveCam implement the RFID driver ID system they use today.

With the RFID readers and cards that Texas Instruments provided ([product: TRF7961RHBR; http://www.ti.com/trf796x](http://www.ti.com/trf796x)) DriveCam was able to quickly ramp up and meet their volume growth. The new RFID Driver IT system enabled DriveCam to grow from view just a few risky events per day to 20,000 events a day in just a few months. Today, the company views as many as 60,000 risky events a day and provides its driver analysis report to the customer in one to two days. With RIFD driver authentication in place, the possibility for identification error is dramatically reduced, reports are generated faster and more accurately, and their growing client base of large fleets can be managed in a timely manner.

How it Works

As a driver enters the vehicle, he authenticates his driving session with the system by inserting an ID card that uses TI’s RFID. This process ensures the events acquired on his shift are stored under the correct driver profile. DriveCam’s palm-sized, exception-based video event recorder is mounted on the windshield behind the rearview mirror and captures sights and sounds inside and outside the vehicle. Forces (e.g. hard braking, swerving, collision, etc.) cause the recorder to save audio and video footage – the critical seconds immediately before and after the triggered event. When the video event recorder is triggered, a light blinks to alert the driver. This is intentional so the driver knows what he/she did to activate the video event recorder and can aim to avoid repeating that behavior. Saved event files are downloaded directly, via a wired or wireless connection, to DriveCam’s Certified Driving Risk Analysts.

Drivers are embracing Driver Risk Management and there are drivers that are requiring a risk mitigation system before they will drive for a fleet. “There is a team that fully trains and explains the system to the driver and helps drivers understand how it works and what triggers a recorded event,” says Kathleen Glass, director of marketing, DriveCam. “Once drivers realize all of the benefits to the system, they soon become big fans of it because they know the before, during and after events are recorded and can protect them. There is generally very little dispute and we see a lot of situations that favor the driver.”

Today DriveCam has implemented its technology into over 80,000 commercial, government and consumer vehicles.

About DriveCam

DriveCam is a global Driver Risk Management company that reduces claims costs and saves lives by improving the way people drive. By combining sight and sound, expert analysis and driver coaching, DriveCam has reduced vehicle damages, workers' compensation and personal injury costs by more than 50 percent in over 86,000 commercial and government vehicles. DriveCam has the world's largest repository of events reflecting actual risky driving behaviors. In 2007, *Inc.* magazine included DriveCam on its list of the 500 fastest-growing,

privately held companies in the U.S. for the third consecutive year. For more information, visit www.drivecam.com.

About Texas Instruments RFID Systems

Texas Instruments is the world's largest integrated manufacturer of radio frequency identification (RFID) transponders and reader systems. Capitalizing on its competencies in high-volume semiconductor manufacturing and microelectronics packaging, TI is a visionary leader and at the forefront of establishing new markets and international standards for RFID applications. For more information, contact RFID Systems at 1-800-962-7343 (North America) or +1 214-567-7343 (International), or visit the Web site at www.ti-rfid.com.



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