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Final Copy of Case Study

Status:
Laureate

Year:
2013

Organization Name:
SmartDrive Systems Inc.

Organization URL:
www.smartdrive.net

Project Name:
SmartDrive Fuel

Please select the category in which you are submitting your entry:
Sustainability

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

Nearly one half of all fuel consumed by commercial vehicles is wasted. Hard driving and unnecessary idling account for nearly one-third of all fuel consumed. Fleets have the immediate opportunity to reduce fuel consumption up to 30%, saving thousands of dollars annually per vehicle, and realize sustained reductions of thousands of pounds of CO2 emissions. It all starts with monitoring how those vehicles are being driven and identifying where wasteful or inefficient driving performance is occurring. SmartDrive Fuel is a unique driving performance solution, the only service that combines video, driving intelligence and a personalized performance program to help fleets minimize fuel waste and optimize vehicle usage and productivity: improve productivity through accurate,

clear insight into road and in-cab events; maximize asset utilization through accurate identification and mapping of vehicle locations and routes; reduce expenses by extending vehicle life; and reduce carbon emissions through implementation of eco-driving techniques. SmartDrive Fleet Fuel Efficiency studies conducted with thousands of vehicles, and actual customer results, document how fleets are seeing substantial drops in fuel consumption within weeks of starting the program: General Freight MPG up 14%, Public Transit MPG up 8%, Waste Hauling MPG up 9%, Shuttles MPG up 14%, Food/Beverage MPG up 14%. Innovative components of the SmartDrive Fuel program include true fuel-use metrics obtained from the onboard Engine Control Unit, site and driver fuel scorecards with MPG rankings, trip mapping (breadcrumb detail of routes and travel history), geofence boundaries, in-cab Instant Driver Feedback for real-time correction of fuel-wasting maneuvers, and SmartDrive Fuel Efficiency, a smart phone application that keeps drivers aware and engaged with fuel use management. SmartDrive Fuel has been responsible for reducing CO_2 emissions by more than 36,000 tons by reducing participating fleets' fuel usage by nearly 3.5 million gallons.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

SmartDrive Fuel was launched in September 2012. This includes several program aspects: SmartDrive's Fuel Efficiency app gives drivers the power to improve their eco-driving skills and MPG, delivering fuel economy tips, fleet rankings and fuel-saving best practices right to drivers' mobile devices; determine which driving maneuvers could be improved for better fuel efficiency; measure performance rankings within their site and company-wide fleet, and among peers; observe MPG fuel economy for a seven-day period; and manage fuel use to fleet-defined targets. Trip Mapping gives fleet managers and drivers greater insight into "Where", showing current and historical routes by driver or vehicle. This includes detailed breadcrumbs with visibility into maneuver-triggered video events and vehicle operations, such as idling and trip stops. Providing geographic context to driving history, this driving intelligence helps managers: understand location-specific driving patterns, compare drivers over the same route, and identify unsafe or problematic locations. Geofencing provides a valuable window into how a fleet's vehicles are used. Managers set up zip code-based or custom-defined boundaries for zones of interest, such as a parking lot, a customer location, or any other area to include or exclude. Real-time feedback lights show driving maneuvers that use more fuel. When drivers can see their impact on fuel economy instantly, they can quickly adjust driving habits to be more efficient. Fleets typically see 10-12% increases in MPG. SmartDrive Fuel's real-time tracking capability displays vehicle location on digital maps on the fleet manager's desktop computer. Supervisors can see where their recorder-

equipped vehicles are, how fast they are moving and in what direction, as well as the driver's ID. Position locations are updated every two minutes. Timely location information allows fleet managers to optimize routes for better fuel efficiency.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

Yes. The SmartDrive Fuel solution is fully formed and was introduced in H1 2012. It is deployed among a variety of trucking and transportation fleets, which are realizing sustained, dramatic gains in reduced fuel use and costs, and substantially lower carbon emissions. To date, in aggregate, the SmartDrive Fuel program has been responsible for avoiding more than 36,000 tons of CO_2 emissions by reducing participating fleets' fuel usage by nearly 3.5 million gallons.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)

In a landmark series of transportation fleet Fuel Efficiency Studies, SmartDrive analyzed the fuel usage of thousands of vehicles and drivers, across a variety of fleets and vehicle types, and millions of miles. The study participants, all SmartDrive customers, provided valuable input and insight into fuel consumption habits and the impact of eco-driving training and techniques on improving fuel economy. Among other findings the studies revealed a direct correlation between driving maneuvers and fuel consumption. The SmartDrive Public Transit Fuel Efficiency Study, conducted with Veolia Transportation, showed that Veolia drivers reduced fuel consumption as much as 18.7%, an average savings of nearly $3,400 annually per vehicle, by engaging in fuel-efficient, eco-driving best practices. "This study provided us with an in-depth understanding of driving performance and its impact on fuel consumption, and associated carbon emissions," said Shelly Hall, Veolia's Vice President Safety, Transit Division. "More importantly, it validated that we can control fuel use and lower our costs through ongoing training and real-time driver feedback in the vehicle." SmartDrive Fuel demonstrates how simple changes in driving habits can have a big impact on fuel efficiency. Performance improvement tools and real-time in-cab Instant Driver Feedback that targets fuel-saving opportunities deliver immediate and measurable results. Multiply those efficiency gains by the tens of thousands of vehicles in the SmartDrive program, and the millions of miles those vehicles cover, and the cost-savings can be truly significant. Ken Westbrook, COO, Veolia Transportation, Transit Division, noted, "SmartDrive delivers valuable insight into how our vehicles are being driven, helping us develop targeted tools to improve

performance. SmartDrive's new Eco-Driving Training video is a great addition to that tool box. It not only raises awareness of the issue of fuel economy, it teaches a solution."

Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

SmartDrive Fuel was created specifically to help commercial fleets gain greater control of their fuel consumption and costs, and improve their environmental impact by improving individual driver performance. The innovative combination of video, vehicle ECU data, mobile apps for drivers, and a fuel management center resource for fleet managers provides an unparalleled view of how fleets are using fuel, where waste occurs, where opportunities exist for fuel conservation and how to meet clean air mandates through reduced carbon emissions. This same program can be adapted for use by any fleet, public or private, enabling users to enjoy greater fuel efficiency and a more environmentally sound fleet operation.

If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)

SmartDrive Fuel was borne out of the landmark series of fuel efficiency studies conducted by SmartDrive in 2010 and 2011, which covered commercial trucking, public transportation, shuttle fleets, waste hauling, food and beverage delivery, and work truck fleets serving utilities, local delivery and service businesses. The studies reviewed the performance of thousands of vehicles and drivers, in a variety of locations, over the course of millions of miles. Through detailed analysis, SmartDrive determined which maneuvers contribute to the greatest fuel waste, and documented how a combination of personalized driver training and in-cab Instant Driver Feedback lights can improve driving performance, reduce fuel consumption and lower emissions. IDF Lights SmartDrive's innovative Instant Driver Feedback system incorporates real-time feedback lights in the cab that show driving maneuvers that use more fuel. When drivers are able to see their impact on fuel economy instantly, they can quickly adjust their driving habits to be more efficient. Fleets typically see 10-12% increases in MPG after implementing the IDF system. Empowering drivers with mobile access SmartDrive Fuel Efficiency app empowers drivers to improve their eco-driving skills, individual ranking and MPG, delivering fuel economy tips, fuel-saving best practices and fleet rankings right to drivers' smart devices. This allows them to: Manage to fleet-defined MPG targets, measure MPG ranking among peers, and see specific driving maneuvers that can boost their ranking. Online Fuel Management Response Center: SmartDrive Fuel provides a convenient and easy-to-use online resource where customers can access driving performance scorecards for all

sites and drivers, along with fuel metrics, such as MPG, fuel consumption, CO_2, idle time, drive time, and more. This one-stop center provides fuel management information at a glance, empowering fleet managers to keep a steady eye on fuel consumption and fuel emissions.