SOLERA | eDriving

Transforming Attitudes and Behaviors Through "Closed-Loop" Telematics

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"What happens behind the wheel is personal: it's driven very much by habit and whatever immediate context is shaping the moment—did we just have an argument, did we just lose a deal, are we late to a meeting? But changing what is happening behind the wheel is no different than any other behavioral change challenge like losing weight, eating healthy, starting a fitness program or quitting smoking.

"Can you change driving behavior? Yes. Can you do it for thousands of drivers across multiple time zones? Yes. Can the behavior change be sustained over time? Yes. Can telematics help? Yes . . . and no. Telematics offerings that just gather data and process a score without remediation, risk management or benchmarking tools—not so much! But a telematics offering that is part of a holistic, "closed-loop" remediation approach with scoring capability built by FICO®, the world's scoring and analytics powerhouse? Absolutely, yes! The former approach is like trying to lose weight with only a scale. The latter is akin to a full weight-loss or fitness program."

Celia Stokes, CEO eDriving

Road Safety—a Global Crisis

94% of road traffic collisions and incidents are caused by **Driver Attitude And Behavior**—not lack of knowledge or skills. In other words, virtually all collisions can be avoided.

It comes down to lack of control, bad habits, arrogance, and lack of attention. And the problem is getting worse. 2016 road fatality statistics in the United States showed that, after declining for most of the last decade, road fatalities increased by 6% over 2015 and 14% over 2014—the most dramatic two-year escalation in over 50 years. In addition, an estimated 4.6 million roadway users were injured seriously enough to require medical attention in 2016, costing society an estimated $432 billion[1].

As a society, we have become numb to this escalating situation. If we translate the most recent road fatality statistics into the equivalent number of airplane crashes, there would be 15 crashes of average-sized commercial planes per month in the US, and over 500 plane crashes each month worldwide. Imagine how much we would be focused on that as a public crisis!

How Do We Change Driver Behavior?

We do this with an "ecosystem" that focuses first and foremost on the DRIVER. No risk management program works without meaningfully engaging the driver. The approach must be relevant, objective and able to secure drivers' attention.

The cultural context is also crucial. In the case of the fleet driver, this requires the company and the
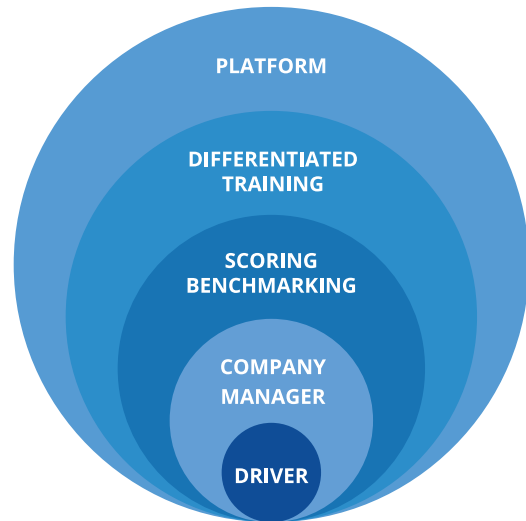
- **PLATFORM**
  3rd Party Data Universe Integration
- **DIFFERENTIATED TRAINING**
  Remediation and Reinforcement
- **SCORING & BENCHMARKING**
  Tracking & Comparison
- **COMPANY**
  Cultural Context
- **DRIVER**
  Engagement, Relevancy, Fair Measurement

Road Fatalities Surge	**Knowledge vs. Behavior**	**Phone Compulsion**	**Distraction Denial**	**Training Isn't Enough**
Complacency has driven dangerous normalization	Bad habits are hard to break, esp. when we don't know we have them	Turning phone from culprit to cure	We are in deep denial about our focus in the car	Awareness does not drive change; long form training less effective

manager to demonstrate and reinforce the expected norms. Scoring and benchmarking enable tracking and comparison among drivers, teams and companies. Personalized training increases relevance to drivers and reinforces the expected behaviors. The whole ecosystem must be built on a platform that manages multiple third-party data sources. This includes driving license checks, assessment results, telematics results, and incident and collision history, as well as engagement in (and completion of) the assigned elements of the program, such as training and coaching sessions. The platform must instruct people what to do and when to do it.

Solving the 94% Problem With a Validated Method—the Closed Loop 1.0

A closed-loop program is an ongoing loop of diagnosis, prescription, engagement and action: a continuous cycle of improvement, with the ultimate goal of sustained crash-free behavior year over year. When comparing the approach to weight loss, most of us know how easy it is to gain back a few pounds after the initial weight loss. The closed-loop approach is about establishing a permanent change in driver behavior. eDriving pioneered and patented[2] the closed-loop risk management system for fleets, with five key stages that establish and feed the ecosystem discussed above:

1. Establishing the Safety Culture
Define, communicate and reinforce mission-critical, non-negotiable policies and standards designed to keep drivers (and the wider community) safe while driving for work. This includes privacy policies; customized driver pledges; internal communication plans; training for managers on their important roles in the process and the necessity for regular interactions with their employee drivers; and driver onboarding.

2. Risk Assessment
Drivers perform a validated self-assessment to identify attitudes, behaviors and skills, reinforced with knowledge checks. By itself, the output of this stage is highly predictive of risk.

3. Scoring
Risk assessment becomes even more powerful when combined with other data such as license infractions and incident and collision history. The purpose of this step is to identify the most at-risk drivers in need of greater support and training, while reinforcing the low- and medium-risk drivers. It is also about predicting when something has changed for a driver that may position him or her in a high-risk category.

4. Training
In response to the needs of the individual drivers, ongoing, relevant and personalized training and remediation help to improve driver skills. High-risk response plans might include assignment to a telematics program, to behind-the-wheel coaching, to frequent one-on-ones with managers, and to a higher frequency of training modules.

5. Benchmarking
Managers can identify weaknesses, and employees can see how their own performance compares with their peers. Benchmarking can also compare whole teams and companies—and can be used by insurance companies to assess risk. Effective benchmarking enables individuals, teams and companies to see their weaknesses, and it increases the likelihood of self-correction to "climb" the standings.

eDriving's closed-loop approach lives within an ecosystem known as Virtual Risk Manager® (VRM), a platform that helps clients build road safety management into their operating DNA. The ultimate aim is a permanent CRASH-FREE CULTURE. VRM analyzes data from multiple sources and presents a 360-degree view of the driver. The platform serves as a one-stop source of truth—providing a TOTAL RISK PICTURE and set of actions across an organization.

The Closed Loop in Action: BT Case Study

BT is a large communications service provider, operating in over 170 countries worldwide. In the UK, the company has one of the largest motor fleets, with approximately 35,000 vehicles, about two-thirds of which are vans driven by engineers. Company cars and a few large commercial vehicles comprise the remainder of the fleet.

In the financial year 2001–2002, fleet claims from collisions and other incidents such as thefts, vandalism and vehicle fires cost the company approximately £25 million in direct losses (including repairs to BT and third-party vehicles), plus an estimated three to four times more in indirect costs, including administration, failed operations and investigation time. For the business, this equated to needing to generate the equivalent revenue from approximately 600,000 product sales to cover the annual cost of fleet claims.

BT was an early adopter of the closed-loop approach, having identified that work-related road safety has a significant potential impact on the health, safety and well-being of employees, their families and local communities—and having recognized that it should be managed as an Occupational Health and Safety (OHS) issue within the organization. Via the VRM approach, BT increased its focus on:

• Policy and communications
• Management development and engagement
• Data-led risk profiling and differentiated intervention
• Improved vehicle selection and management
• Effective journey planning and management
• Community engagement—family and friends initiative
• Thought leadership—government and industry initiatives

Results
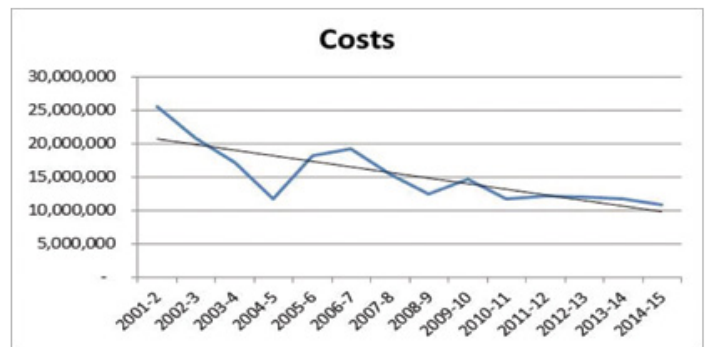
Why VRM?

VRM has trained more than one million fleet drivers in over 90 countries and 45 languages. It has earned over 70 awards while being used by global Fortune 500 companies for over 20 years. Today, VRM continues to deliver massive results to some of the world's most successful businesses, including Nestlé, BT, Johnson & Johnson, Zurich, Pfizer, Merck, Cummins, GSK, Liberty Mutual and Mondelēz.

VRM has helped organizations worldwide to:
• Instill a crash-free culture and reduce collisions by up to 67%
• Experience an average return on investment (ROI) of 20-40%

BT's collision rate and costs halved since implementing VRM. The program has been sustained, benchmarked and replicated by many organizations, providing BT with not only clear reductions in collisions and costs, but industry leadership recognition as well.

Embracing the Closed Loop at Nestlé
Nestlé is the world's leading food, health and nutrition company, operating in 87+ countries, with 50,000+ drivers. In 2004, Nestlé calculated that, in Europe, it needed to sell 235 million KitKat bars to finance its motor fleet risks. With support from its insurer, Zurich Risk Engineering, Nestlé introduced VRM as a global business tool.

The company embraced all aspects of the closed-loop approach, including building driving safety into the Global Nestlé Occupational Safety and Health Standard, driver risk assessment, defensive driver coaching, relevant training modules rolled out as required, and benchmarking.

Nestlé has proven particularly successful at creating relevance for employees. For example, converting costs into KitKat sales helps employees understand the scale of the problem. Cost savings from reduced collisions are passed back to divisions as bonuses, further incentivizing and rewarding engagement.

Results
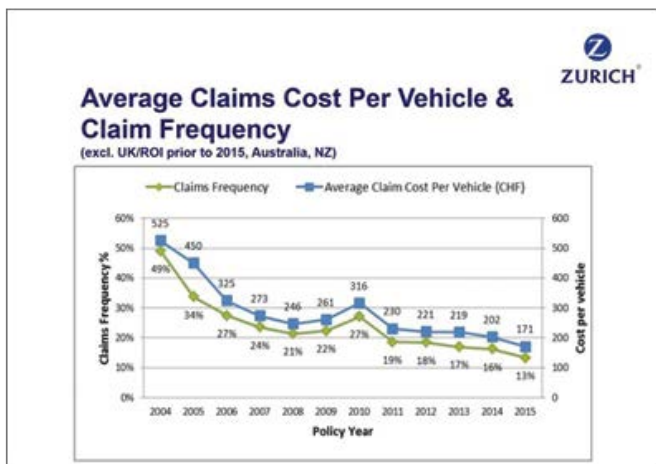
The Nestlé trend shows year-over-year improvement in claim frequency and claim cost per vehicle for 10 out of 11 years from 2004–2015.

The Nestlé Motor Program was named Best in Portfolio and Best in Class by Zurich.

Spotlight on Nestlé Mexico
Looking at just one geographical market as an example of specific program elements utilized by the company, Nestlé Mexico's fleet of cars, trucks, buses and motorcycles is faced with some of the world's most dangerous traffic conditions. To help reduce risk, Nestlé Mexico implemented in-classroom defensive driving courses and analysis of collision statistics to determine deviations and vehicle purchase criteria, including safety, environmental impact and security. VRM was adopted across all businesses, including contract drivers, and a safe/defensive driving module was integrated into training courses for sales personnel.

To help make the process a success, Nestlé Mexico:

• Customized all program materials including Nestlé Safe Driving Policies, Golden Rules, and Pledge to local language, cultural needs, policies and standards
• Trained all relevant managers and supervisors on the use of VRM
• Provided unlimited support through a designated vice president as project "Champion" and a dedicated safety committee
• Created a local "Call Center" for direct technical support for VRM participants
• Developed a collision/incident registry system for monitoring
• Actively used all marketing and communication channels to promote a safe driving culture

Results in just the first 12 months:
Fatalities (from 3 to 0)
Injuries (-48%)
Collisions (-39%)
Claims frequency and costs (-22%)

Closed Loop Meets Telematics

Advances in technology have altered the way business is conducted the world over. Managing fleet risk is no exception. For example, vehicle telematics, initially in the form of on-board devices (OBDs), transformed the fleet industry. This technology gave fleet managers access to real-time data, such as vehicle location, movement, status and speed. Fleet managers have been able to use this data to help better manage drivers and vehicles: examples include allocating jobs appropriate to driver location, monitoring fuel use and identifying drivers' weaknesses.

Telematics-based VRM at Janssen Pharmaceuticals (Johnson & Johnson)
Janssen Pharmaceuticals, an operating division of Johnson & Johnson (J&J), has more than 3,600 drivers in the US, covering 88 million miles every year. As a long-standing eDriving client, J&J was another early adopter of the closed-loop approach to driver risk management.

In 2014, Janssen expanded its existing VRM program by introducing the telematics-based VRM Coach℠ program to drivers identified as high risk, high/medium risk and new hires. Telematics units were installed in drivers' vehicles and coaching materials were developed for all managers whose direct reports were involved in the program. The telematics data enables drivers to be benchmarked against each other.

Janssen reports the following results:

1. During the first year, the collision rate was reduced by 20%.

2. Behavior-based telematics technology in a sales environment encourages safe behind-the-wheel behaviors without compromising privacy.

3. Online driver and manager coaching reports enable drivers and their managers to benchmark driving behaviors against per groups.

4. VRM with telematics encourages managers and their direct reports to engage in monthly safe driving conversations compared to previous annual conversations.

5. A safe driving culture has evolved based on the ability to proactively identify at-risk driving behaviors.

Evolving the Closed-Loop Approach for the Rising Tide of Distraction and the Modern Learner

Living in a Distracted World

Distracted driving occurs in 52% of trips that result in crashes[3]. A majority (80%) of drivers say distraction is a serious problem.[4]

It is an addiction to cell phones that is putting drivers most at risk. Phone use while driving causes three types of distraction: manual (hands off the wheel), visual (eyes off the road), and cognitive (minds off the driving task). Research tells us that the last type of distraction—cognitive—appears to have the largest impact on driving behavior.[5]

Drivers who use a phone, **whether hand-held or hands-free:**

"My score improved after one week with assistance from the VRM Coach device. Areas in need of most improvement: speed, especially on/off ramps and hard turns or merging; hard stops; and my kids taking seatbelts off before the car is at a complete stop. I am genuinely grateful the company has invested in my safety and it has made a difference on many of my habits that needed to be adjusted."
J&J driver

• are much less aware of what's happening on the road around them;
• fail to see road signs;
• fail to maintain proper lane position and steady speed;
• are more likely to "tailgate" the vehicle in front of them;
• react more slowly, and take longer to brake and stop;
• are more likely to enter unsafe gaps in traffic; and
• feel more stressed and frustrated.[6]

Studies suggest that using a phone at the wheel increases crash risk for drivers by at least four times. It's not just hand-held phones; there is currently **no conclusive evidence that hands-free phones are any safer for drivers**, because of the cognitive distraction involved.[7]

Additionally, research[8] shows that "distraction latency" lasts an average of 27 seconds. This means that checking a phone at stoplights is no safer than checking it while moving, because the effects of distraction remain, even after putting the phone down. Yet, many drivers are in denial. They know the risks, but continue to engage in dangerously distracting behavior. One study found that more than half (56%) of respondents admitted to checking their mobile devices while driving,[9] while another discovered two-thirds of drivers rate themselves as "excellent" or "very good," yet admit to texting, speeding and engaging in other unsafe behaviors at the wheel.

Meet the "Modern Learner"

In recent years, the way people learn has changed. At one time, we engaged the fleet driver through on-the-road training alone. Technology enabled such training to move online, but technology continues to move fast—and the way people want to learn has changed.

The modern learner doesn't have much time. The modern learner wants to learn at his or her convenience. The modern learner is too busy to sit in a classroom for hours. The modern learner is even too busy to sit at a desk for hours. The modern learner wants to learn things quickly.

Bersin by Deloitte[10] tells us the modern learner is **overwhelmed, distracted and impatient**. Typically:

• Most learners won't watch videos longer than 4 minutes
• People unlock their smartphones up to 9 times every hour
• Workers get interrupted as frequently as every 5 minutes
• Employees have 1% of a typical work week to focus on training and development
• People are used to the "YouTube effect"—learning how to create a pivot table, properly chop an onion, or change the oil in their vehicle in five minutes or less, on any device, exactly when and where they want to

Encouraging Behavioral Change in the Modern Learner: Applying the Transtheoretical Model of Change
The Transtheoretical Model of Change[11] is an integrative theory of therapy that assesses an individual's readiness to act on a new healthier behavior. It provides strategies, or processes of change, to guide the individual. The idea is that change is a PROCESS, during which the individual goes through several

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The Seven Stages of Distraction Denial
Humans are adept at rationalizing behind-the-wheel behavior through denial. In partnership with renowned cognitive scientist Dr. Paul Atchley, eDriving has identified seven distinct stages of distraction denial to help drivers confront the common denials keeping them locked into life-threatening bad habits. These stages are described in detail by Dr. Atchley in a free Seven Stages of Distraction Denial™ webinar, available to view on demand on the eDriving website.

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stages. This begins with pre-contemplation or "denial," then progresses through contemplation, preparation for change, action, and finally, maintenance.

This model of change can be applied to driver behavior. Specifically, we can help drivers become aware of their own denial, using models such as the Seven Stages of Distraction Denial™. Yet, awareness alone does not mean drivers will do anything about it. That's why employer-mandated change and a closed loop of diagnosis and training could be the intervention needed to encourage and reinforce behavioral shifts in the fleet environment.

Benchmarking = Gamification and Shamification

Since the introduction of the closed-loop approach, benchmarking has formed a vital component of risk management. And, in recent years, benchmarking has evolved to become part of the modern consumer landscape. Organizations are now using a form of benchmarking known as gamification (or "shamification") to encourage people to behave differently.

A great example of this comes from an industry where creating a compelling reason for people to act differently is particularly challenging: energy usage. One company, OPower (now owned by Oracle), demonstrated success across utility companies, user groups and even countries. Its clients had previously tried to motivate people to reduce their energy consumption by encouraging them to "save money," "save the planet" or "be good citizens." However, OPower found success by way of its team of behavioral scientists. Telling consumers that they could save money, save the planet or be good citizens had zero impact on energy consumption; yet showing people

Transtheoretical Model of Change (TTM)

Change is a process not an event—often non-linear
*Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992)

INTENTION

MAINTENANCE
- > 6 months
- Integrated behavior
- Relapse prevention
- I am a runner/non-smoker

ACTION
- Change has happened; pride
- I go to the gym every morning
- Support & encouragement reinforces
- Games, contests, 10Ks

PREPARATION
- Committed to change
- Action plan and small steps
- Joined a gym/bought running shoes
- Personal control engaged

CONTEMPLATION
- Acceptance; intention vacillates
- "I need to start working out"
- "I need to stop…"

PRE-CONTEMPLATION
- Denial
- "Dieting has never worked"
- "I've never worn my seatbelt/bike helmet"

specifically how they compared to their neighbors has sustained an average drop in consumption of 6%.

Similar approaches have been adopted by behavior-change leaders such as Fitbit, Strava and Weight Watchers, where personalized data is collected, insights are presented to the member, and sharing is encouraged among a social set. These methods have all proven successful at motivating users via competition, rewards, badges, and shared social challenges—with most including forms of gamification and often its less-discussed cousin, shamification.

The Smartphone: From Culprit to Cure

Introducing eDriving's Closed-Loop Solution 2.0: Mentor℠ by eDriving

Mentor by eDriving is a programmatic, smartphone-based telematics solution that helps turn the smartphone from the culprit of driving distraction into the cure for it. It combines eDriving's **original, validated, closed-loop approach** with **app-based microlearning** and behavioral change best practices from weight loss and fitness programs to provide organizations with the most powerful tool for **achieving and sustaining a CRASH-FREE CULTURE**.

With the addition of real-time monitoring of distraction, Mentor also helps drivers to resist distracted driving by recording any phone use, including calls, texts and simply picking up the phone.

Mentor encourages drivers to make small, incremental steps forward, "weigh" their results after each drive, break bad habits, and steadily improve their driving health. In addition to personalized engagement for each driver, Mentor includes visibility for managers to help reinforce and motivate progress.

A downloadable app for iOS and Android, Mentor is the 2.0 model of eDriving's original closed-loop approach. It encompasses the five key stages, evolved to suit the requirements of the modern learner and incorporating powerful new types of measurement during each trip, plus gamification and shamification techniques to encourage drivers to become more aware of exactly how they are progressing.
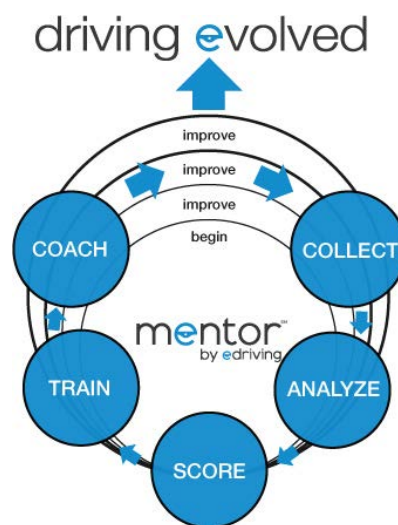
The FICO® Safe Driving Score: Standardizing the Measurement of Driver Risk
The FICO® Safe Driving Score builds on FICO's groundbreaking use of "Big Data" and mathematical algorithms to predict consumer behavior. The FICO® Score has become the standard measure of consumer credit risk in the US. Now, eDriving and FICO® are working with key industry players (including insurance companies and regulators, brokers, fleet and accident management companies, other telematics service providers, and car manufacturers) to cement the FICO® Safe Driving Score as the ubiquitous industry standard for measuring driving behavior.

"We've essentially created a fitness program for drivers. Mentor shifts the smartphone from distracted driving culprit to cure. Personal relevance, engaging content, and competition bordering on what we like to call "shamification" is a powerful combination. It is thrilling to watch the effect of these elements truly changing how people are driving. We see it in their scores and hear it in hallway conversations. Mentor breaks through in a way that no amount of training or policy alone accomplishes."
Celia Stokes, CEO, eDriving

1. Collect
Using smartphone sensors, Mentor collects performance data based on risky behaviors, including distracted driving (texting or phone use while driving), speeding, cornering, hard braking and rapid acceleration.

2. Analyze
Mentor's powerful analytics engine evaluates drivers' specific driving behaviors after every trip and over time.

3. Score
eDriving's partnership with FICO®, the predictive analytics and data science pioneer, has resulted in the development of a transformational industry standard risk predictor—the FICO® Safe Driving Score. Subtle shamification enables drivers to see how they compare to others on their team or in their user-defined groups.

Ultimately, the FICO® Safe Driving Score will enable fleets to empower "good" drivers to prove their low-risk profile, and help "high-risk" drivers to understand their risk exposures, how those factors affect their safety, and what they can do to mitigate their risk of collisions.

4. Train
A "playlist" of engaging, two- to five-minute interactive microlearning modules is customized for each driver based on his or her on-road performance and identified strengths and weaknesses. These segments use on-road video footage to help drivers practice making decisions in real-life scenarios.

5. Coach
Tips, encouragement and reminders are sent to drivers in periodic intervals to keep them engaged in the process. Live one-on-one virtual coaching sessions with each client's managers or with eDriving's licensed driving instructors are used to supplement insights and training provided by the Mentor app.

Remediation for the Modern Learners in Today's Fleets
Mentor includes the following microlearning elements, tailored for today's fleet learner:
• Short, engaging and relevant coaching modules in two- to five-minute "bursts" that can be viewed anytime, anywhere
• A mix of content types, including full-motion video exercises, quizzes, scanning challenges, animations and "Did-You-Know" tips
• High-quality video footage to help drivers practice making decisions in real-life scenarios
• Personalized coaching tailored to driver performance
• Technology compatible with any device, including smartphones, tablets and computers
• One topic per module to reduce cognitive overload
• "Spaced learning," i.e., highly condensed learning with breaks between modules; this method is proven to help drivers retain knowledge[12]

Get Mentor by eDriving

Visit www.edriving.com/mentor to request a demo or to inquire about Mentor for your organization.

About eDriving

eDriving is the largest provider of online driver training and global driver risk management, with more than 10 million US consumer customers to date and over one million fleet drivers served annually. In addition to providing state-regulated online novice driver training and online driver improvement courses (a.k.a. traffic school), its focus is on helping drivers become smarter and safer behind the wheel in close partnership with corporations, fleet services and insurance companies.

eDriving's FLEET division provides the industry's most comprehensive portfolio of driver risk reduction programs validated by large-scale research studies, refined by decades of experience with some of the world's largest blue-chip corporations, and backed by 40 case studies, 60 published research papers and over **12**0 global safety awards. eDriving's mission is to address the 94% of collisions and incidents caused by driver attitude and behavior through the use of technology and online learning expertise. We empower smarter, more reliable, more deliberate drivers.

Endnotes

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To find out more about how eDriving FLEET can support your organization's fleet risk management program, visit www.edriving.com/fleet/ or contact eDriving Fleet at +1(609) 465-4001.

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