



Zendrive: Road Safety Through Data and Analytics

RPM Seminar

Include off

“If cars are better - and they clearly are - drivers must be worse”

Distracted driving is the cause of the much larger jump in fatalities this year

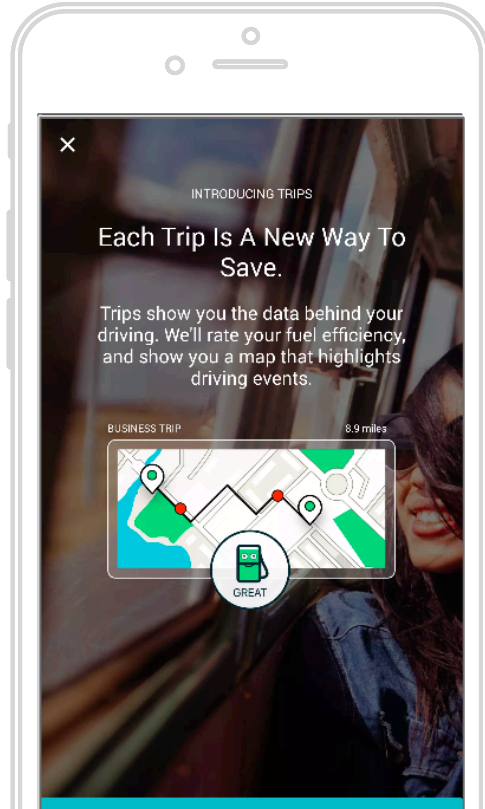
- Warren Buffett - September 2015



World's First and Only Mobile Developer Platform for Driver Safety



+



Aggressive Acceleration

Possible Collisions

Excessive Speeding

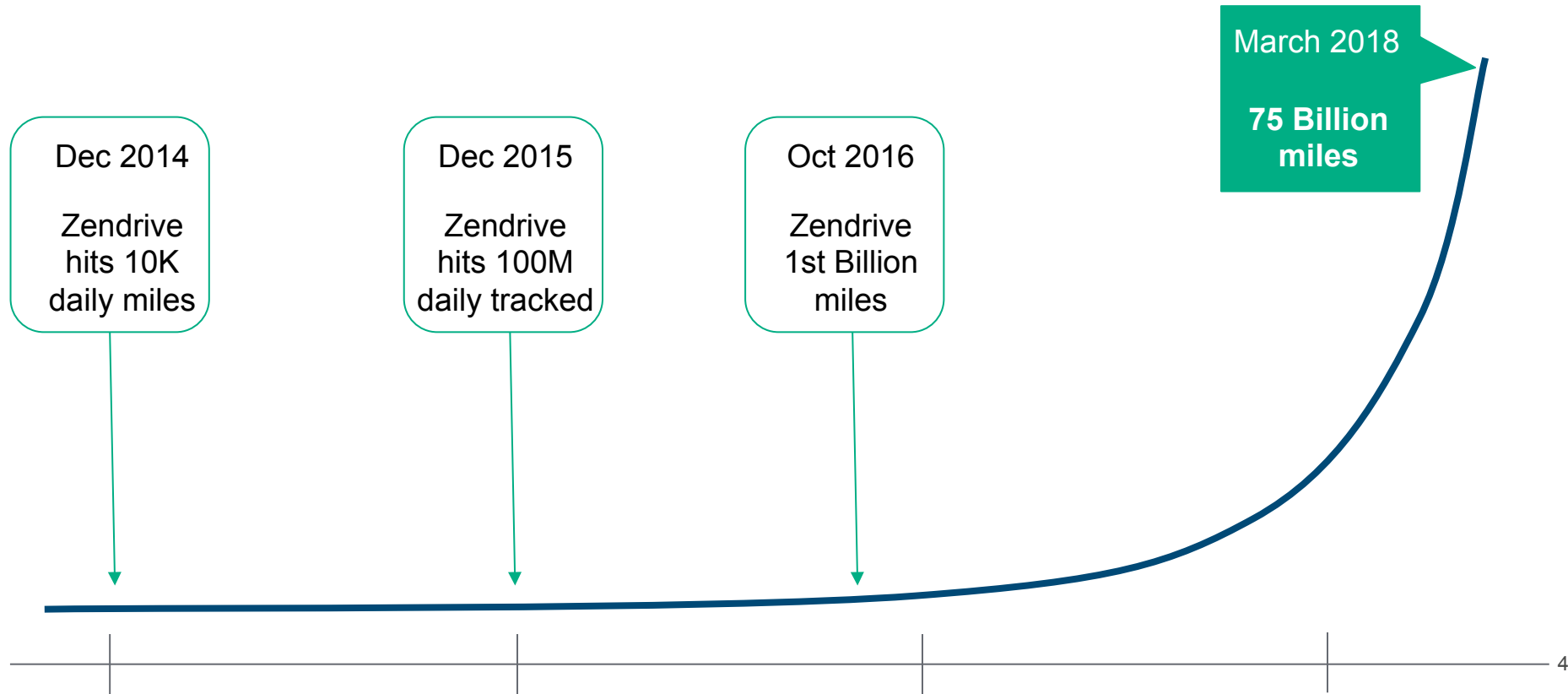
Hard Braking

Risky Phone Use

SDK
Easily
installed in
any app by
developer

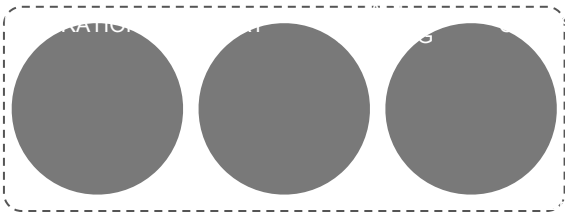
70M
Users

Largest & Fastest Growing Dataset Of Analyzed Driver Miles

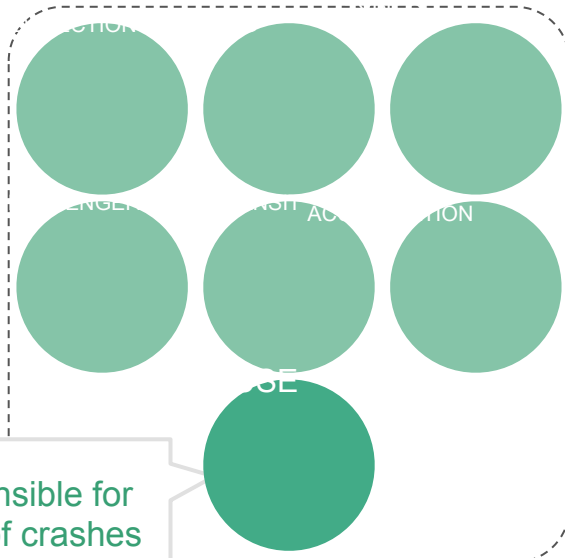


Smartphone sensors enable the collection of driving behavior data

Traditional OBD data

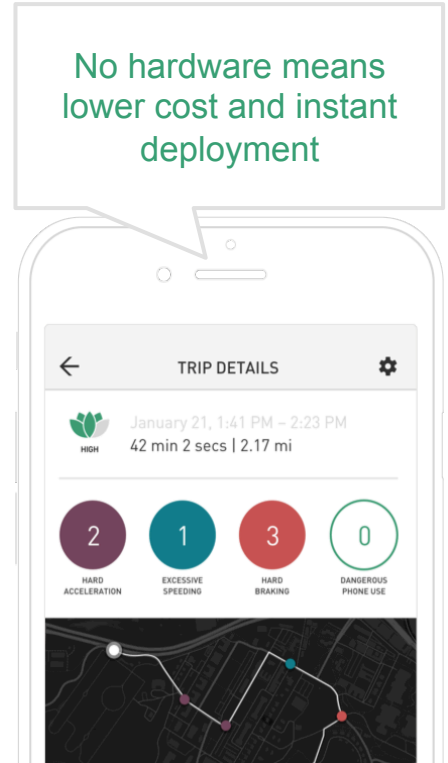


Additional Zendrive data



Responsible for 25%+ of crashes

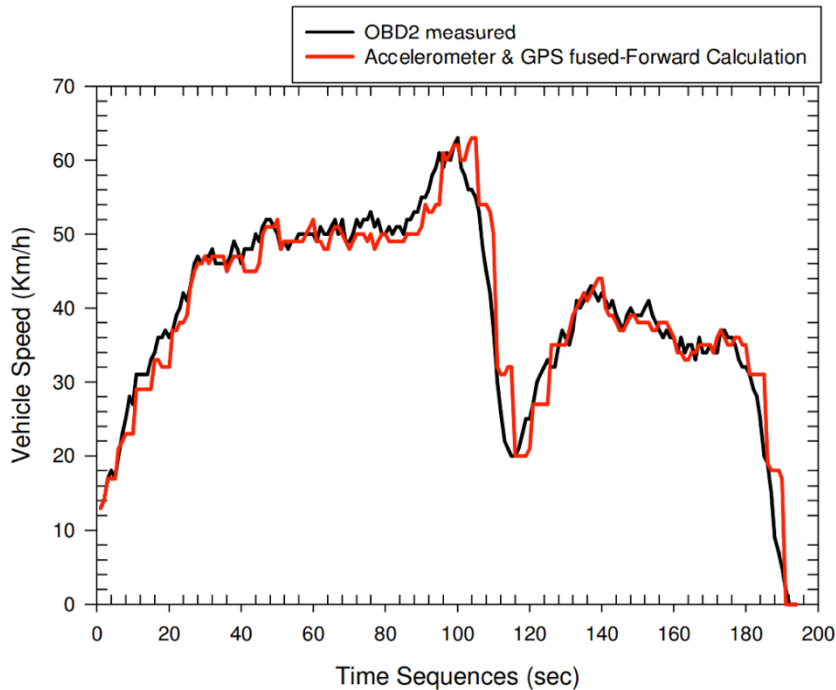
No hardware means lower cost and instant deployment



Zendrive's platform is built on best-in-class DAS ground truth data

DATA STREAM	OBD	DAS (ZENDRIVE)
SAMPLING RATE	<ul style="list-style-type: none">• 10 Hz• Low Resolution• Quantized Measurements• Query-Response system so delays are expected	<ul style="list-style-type: none">• 10 Hz• Very High Resolution• Little smoothing required• Clean signal
SPEED READINGS FROM CAN BUS	Low Quality (see Figure 1)	High Quality (see Figure 1)
HARD BREAKING	Difficult to Obtain & Low Quality	Yes
AGGRESSIVE ACCELERATION	Difficult to Obtain & Low Quality	Yes
TURING RATE	Difficult to Obtain & Low Quality	Yes
LATERAL & LONGITUDINAL ACCELERATION	Not Able to Capture	Yes
DRIVER IDENTIFICATION	Not Available	Yes
DISTRACTED PHONE USE	Not Available	Yes

98%+ as accurate as hardware-based OBD devices



OBD



Zendrive

ONBOARDING

Requires hardware installation in vehicle

1-day integration to “light up” all drivers using app

COSTS

\$50-150 plus monthly monitoring & data fees

Low monthly fee, typically 95% lower OBDs

DISTRACTED DRIVING

Unable to measure, unless complex tethered solution

Measures distracted driving, which causes 25% of crashes

VEHICLE TYPES

Tracks vehicles for OEMs with compatible ports

Vehicle/OEM agnostic; supports all PPT and TTT class 1-5 today



“BMW is committed to safety on the roads. We supported our portfolio company, Zendrive, by giving them **access to our accident testing facilities in order to improve their accident detection algorithms**. We are excited to cooperate with Zendrive to improve road safety...”

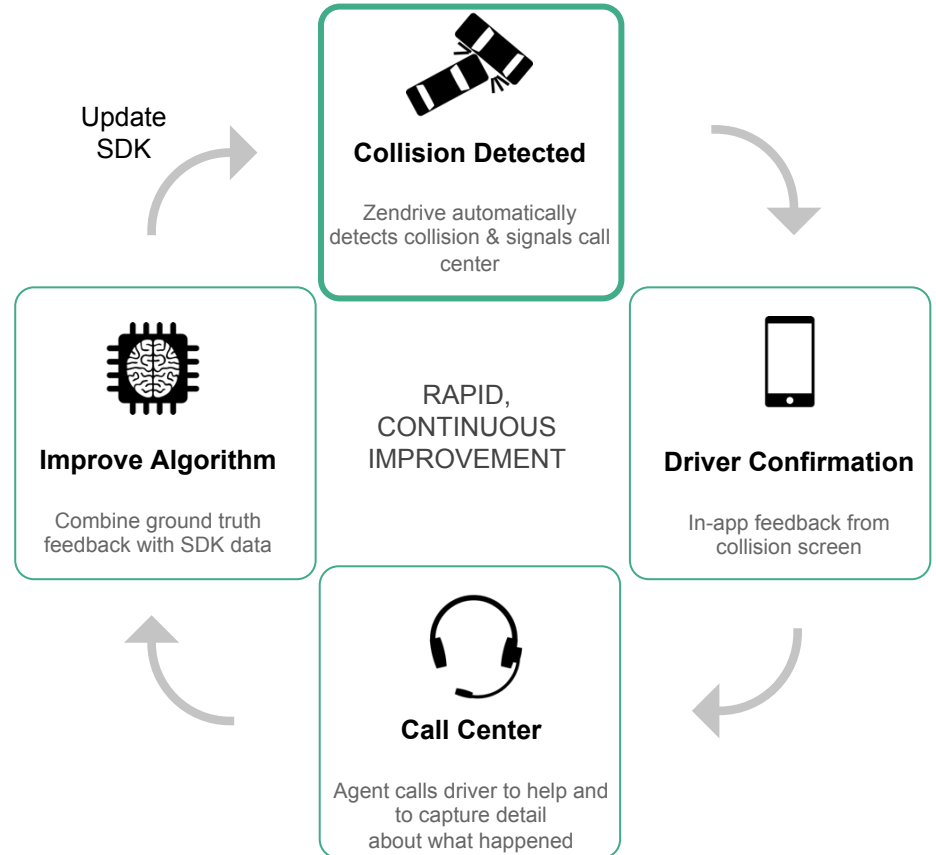
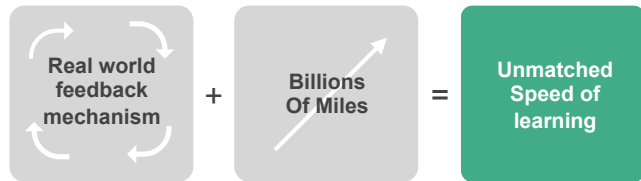


Dr. Ulrich Quay
Head of BMW iVentures

Rapidly Improving Collision Detection

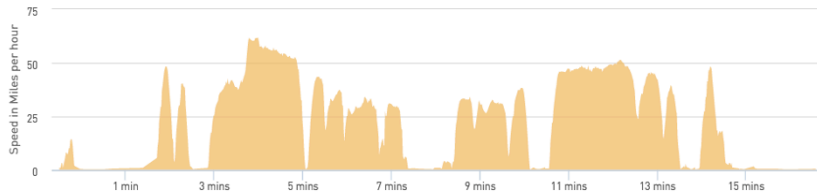
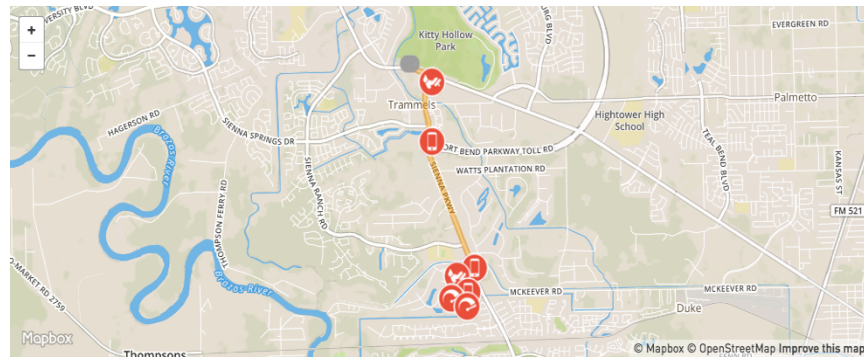
Unmatched speed of improvement

Call center feedback mechanism combined with massive scale means the rate at which our algorithm improves is nearly impossible to replicate.



Collision Detection Value Creation for Claims

OBJECTIVE, VISUAL RE-CREATION



POTENTIAL DATA USED TO INVESTIGATE A CLAIM

Predicting Claims Severity

- Type of road
- Weather
- Population (or traffic) density
- Speed profile
- Reaction time
- Event magnitude

Predicting Claims Causality

- Pre-collision driver behavior
- Intersection proximity
- Direction traveling or turning
- Lane change

Predicting Injuries

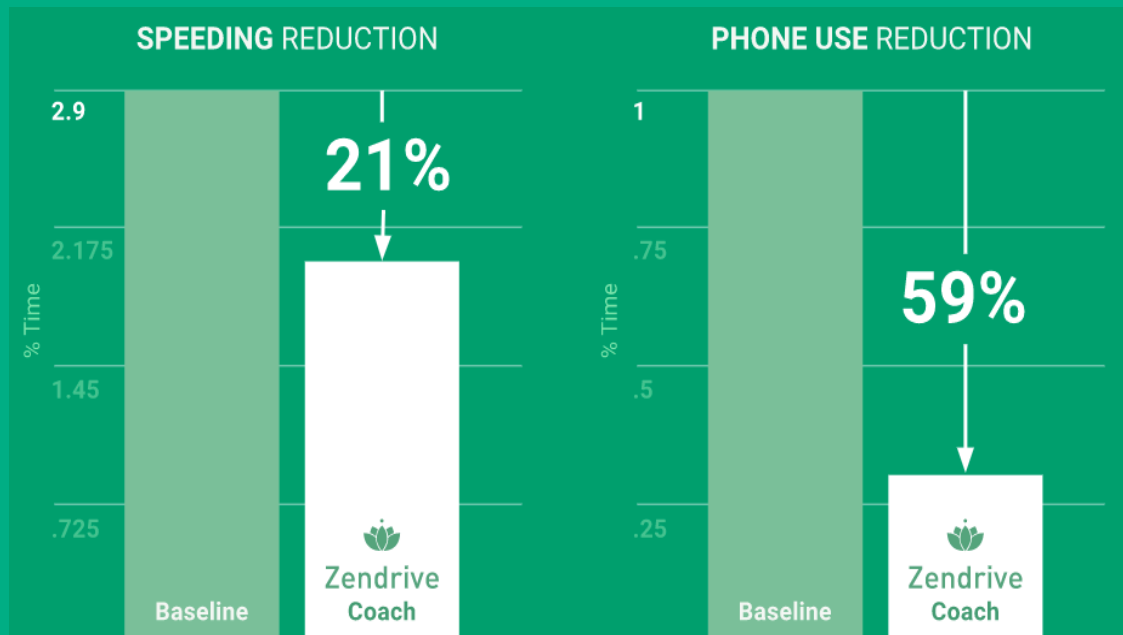
- Degree of vehicle rotation
- Road departure
- Speed profile
- Event magnitude

Predicting Fraudulent Claims

- Date/time/location
- Pre-collision driver behavior
- Post-collision analysis
- Visits to points of interest

Proven, Data-Driven Behavior Improvements

Sustainable Benefit With 120 Drivers Over 4+ Months



Reduce collision risk up to

49%

Based on 21K drivers with results sustained over a 250 day period

“

I finally have objective data to assess my drivers. This is huge.

— Ibrahim Amer, Owner, Limo Service NYC

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