



TELEMATICS GLOBAL CASE STUDY

12th May 2016
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What is Telematics?

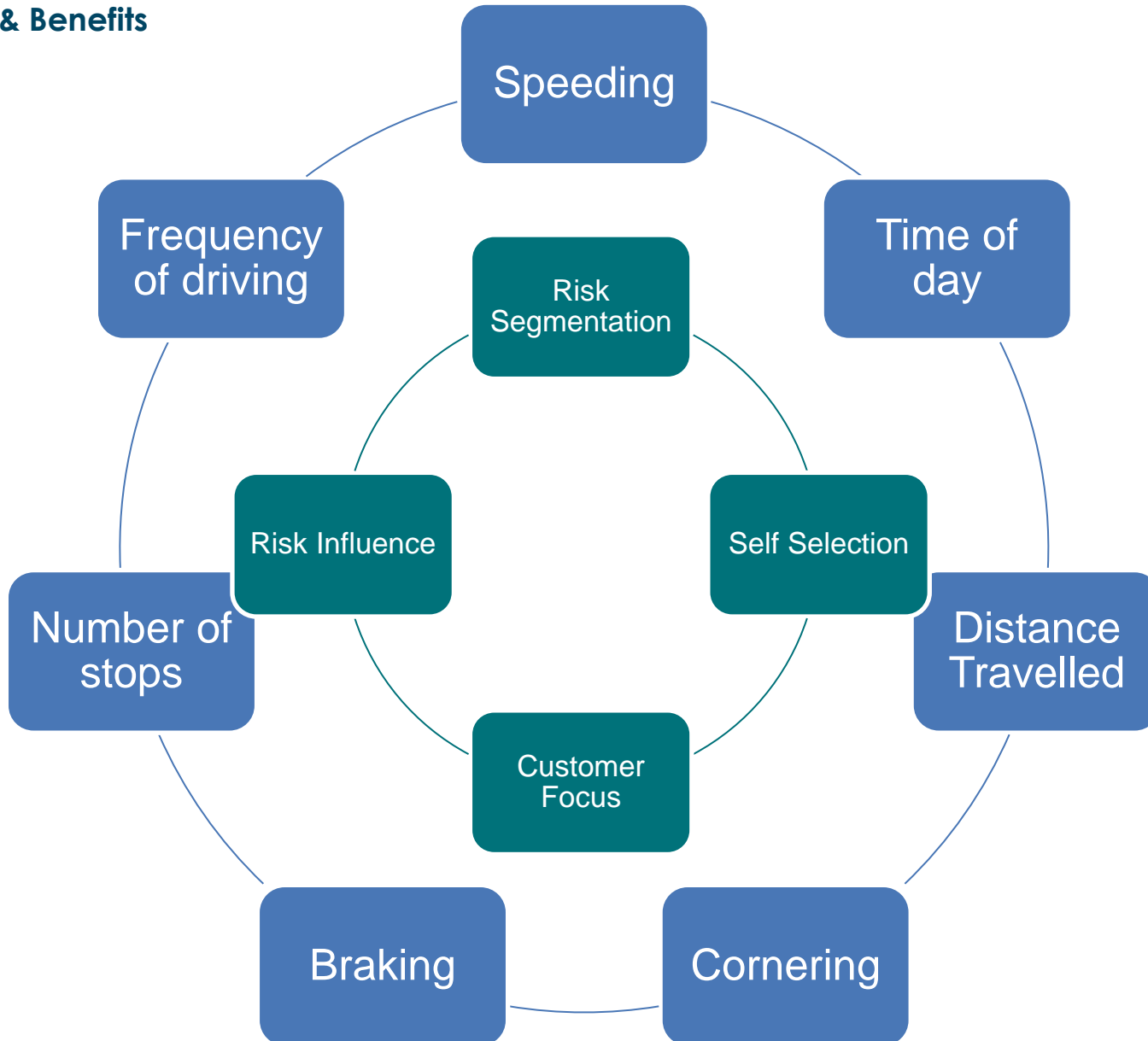
What, Why & When

- “A branch of information technology which deals with the long-distance transmission of computerized information” -not very clear why we are using this in the insurance industry
- The main aim of pricing motor insurance is to ascertain how good a driver actually is, traditional factors such as NCD, driver experience and number of claims are merely a proxies for good driving behavior
- Telematics has taken off in some developed countries, however there are still some challenges to overcome
- The two main ways data is transmitted is through a “black box” installation or a mobile phone app



Telematics Factors

Factors & Benefits



Telematics – Gulf Region

Why is it important?

- ➔ More so than other areas of the world, the Gulf region has a number of nationalities driving on the roads and therefore the importance of pricing is key to make a sound underwriting profit
- ➔ We are not as behind as we think, QIC have released a telematics product this year.
- ➔ There are companies based here which are specialist in collecting such data

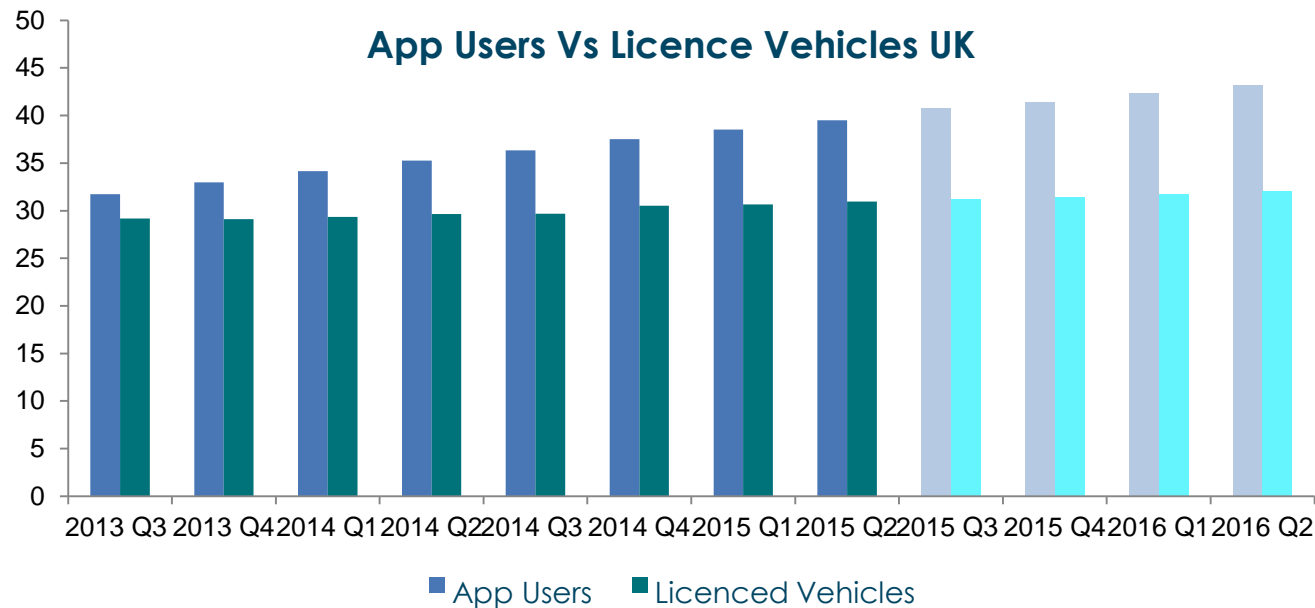
Key Challenges

- ➔ Lack of consumer understanding
- ➔ Amendment of laws – Some devices are not allowed in KSA
- ➔ Telecommunication price reduction – Gulf region one of the most expensive for data usage

Telematics Apps

What makes them a good option?

- ➔ App is short for application - this can be any type of computer program
- ➔ Applications have been around for as long as computers, but the term 'app' is associated with the software that runs on a smartphone or tablet device



- ➔ Aside from the cost benefit over using the traditional black boxes these have a wide market reach than the traditional black box

Keeping Up With The Jones'

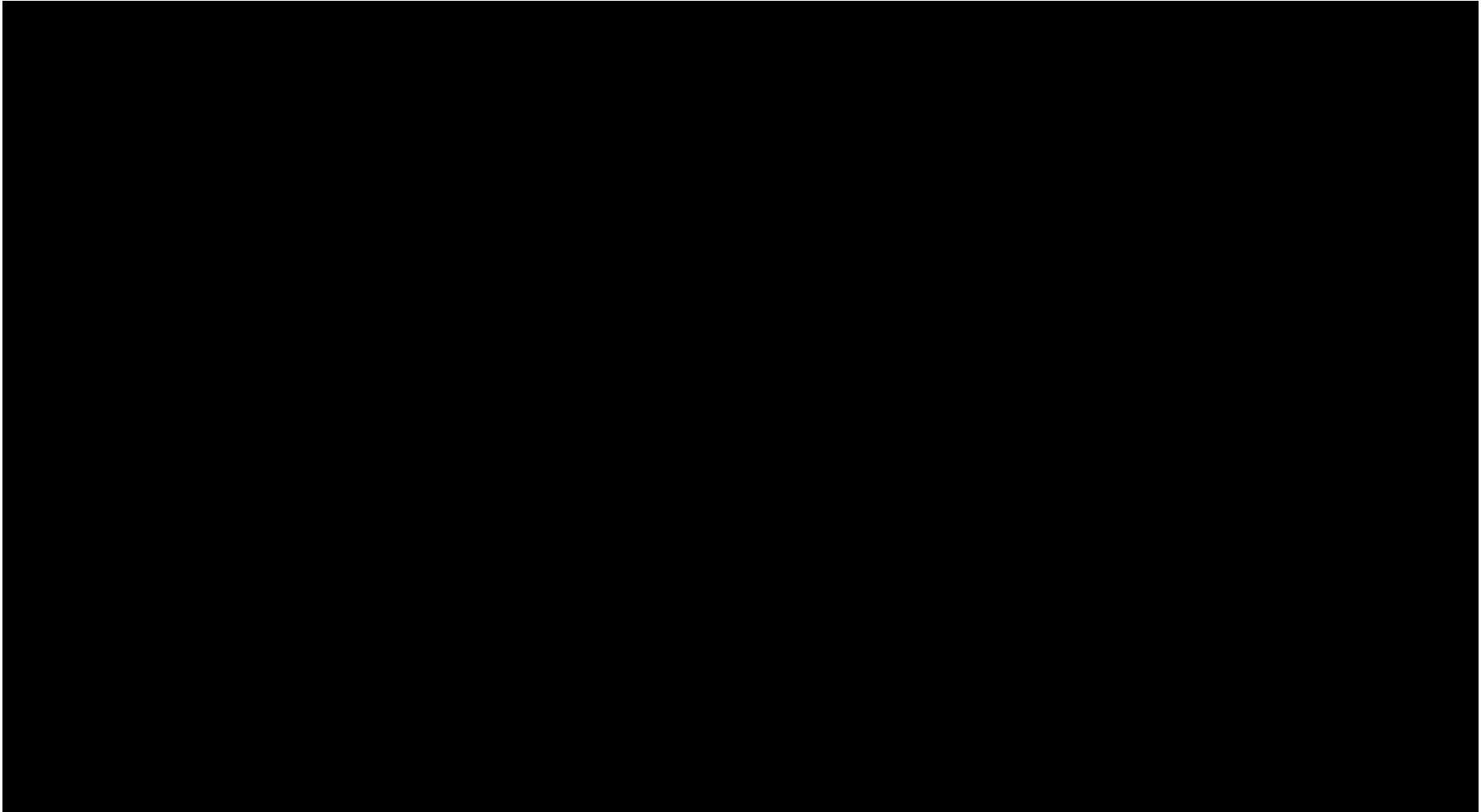


- ➔ Once downloaded onto the iPhone of the driver, AXA Drive Coach connects with the owner's Apple Watch to deliver a simple yet efficient experience.
- ➔ From this moment, the app runs on the Apple Watch without disturbing the driver, enabling the application to start and stop directly from their wrist.
- ➔ At the end of the journey, AXA Drive Coach displays the driving score on the Apple Watch screen, pinpointing good and less good driving habits, hence helping the driver improve their behavior.

“40,000,000 people
in the world use
map apps”



Kaggle Competition

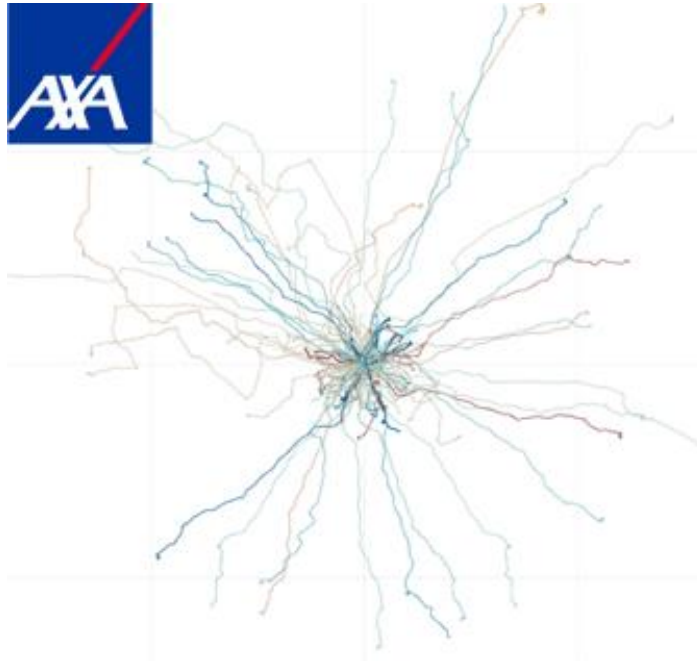


How the competition works?

**200 Trips Per
Driver**

**Small &
Random
Numbers of
False
Positives**

**Randomly
Rotated**



**50,000
Anonymised
Driver Trips**

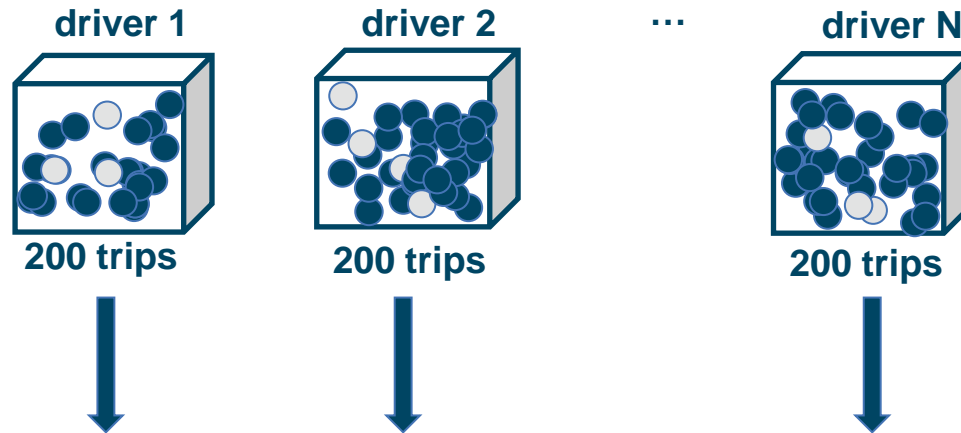
**Randomly
Flipped**

**\$30,000 prizes
available**

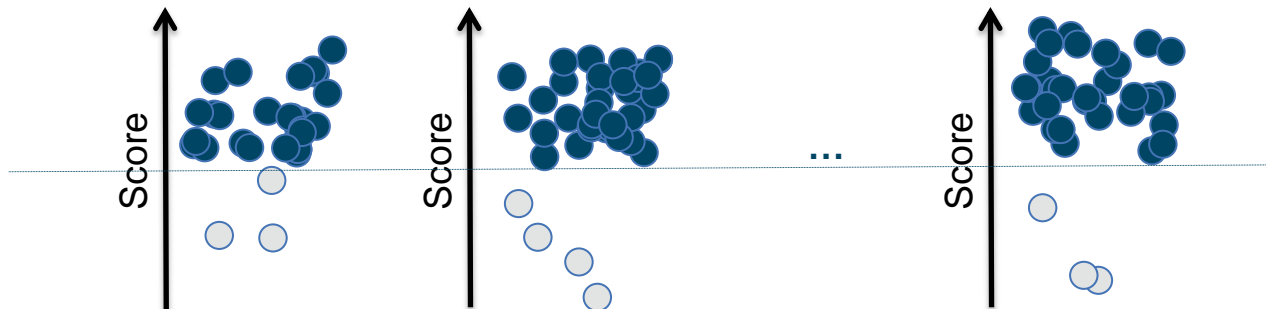
**Trimmed at
Start and End**

Objectives

- Trips belonging to the driver of interest
- Trips that do not belong to the driver of interest

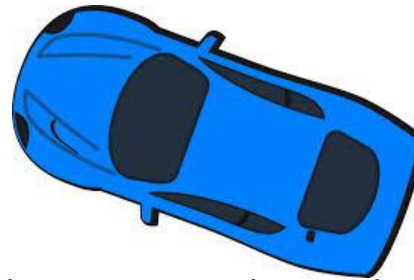


Objective : score the trips so that the grey trips have a lower score than the blue trips

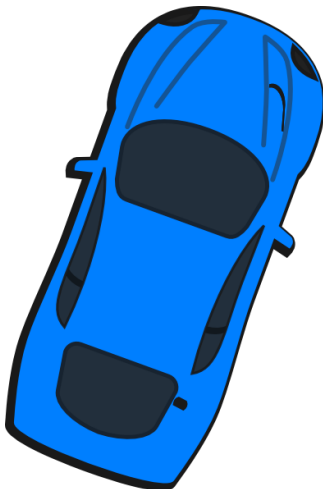


Data Available

x	y
0	0
0.3	-0.8
0.6	-2
0.8	-2.5
0.8	-2.9
1.2	-4
1.2	-4.3
1.6	-4.8
1.6	-5.2

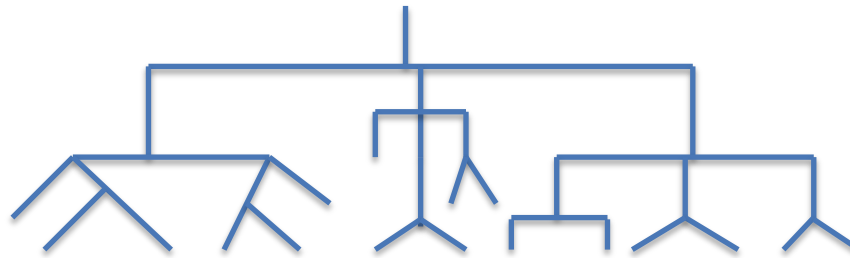


- With not very much to go by it was a challenging task
- The best candidates identified the factors which would allow them to model
 - Speeding
 - Number of turns
 - Stopping between destinations
 - Time
 - Number of stops
 - Braking
 - Cornering



→ Modelling

$$\hat{y} = \frac{1}{m} \sum_{j=1}^m \sum_{i=1}^n W_j(x_i, x') y_i = \sum_{i=1}^n \left(\frac{1}{m} \sum_{j=1}^m W_j(x_i, x') \right) y_i.$$



→ Path Matching



How does this benefit the customer?

Crash recorder proves innocence

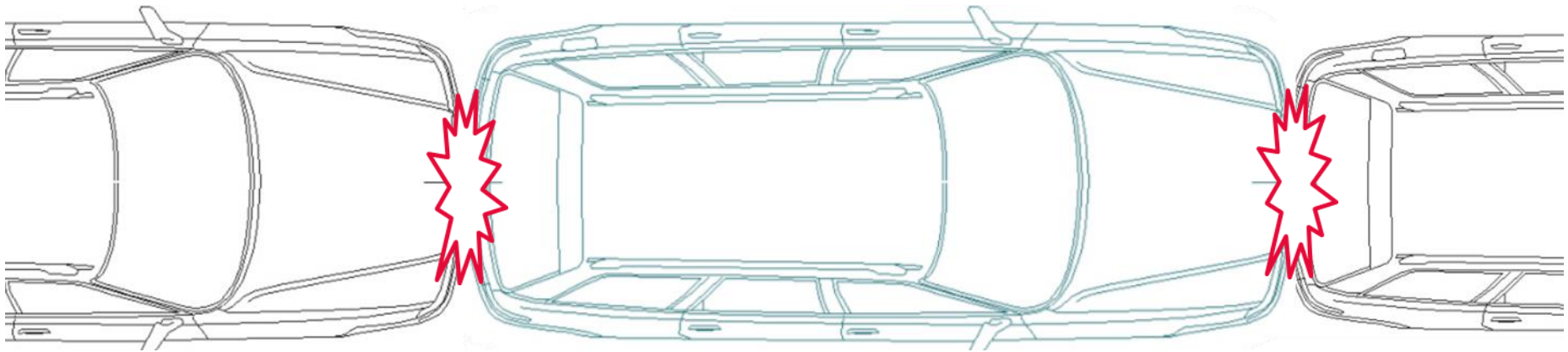
by Désirée Pomper - After a collision, the 18-year-old Sanjay Perera victim of false testimony. But the crash recorder saved him from debt and job loss.



Without Crash recorder of 18-year-old Sanjay Perera had been punished unjustly. (Nicolas Y. Aebi)

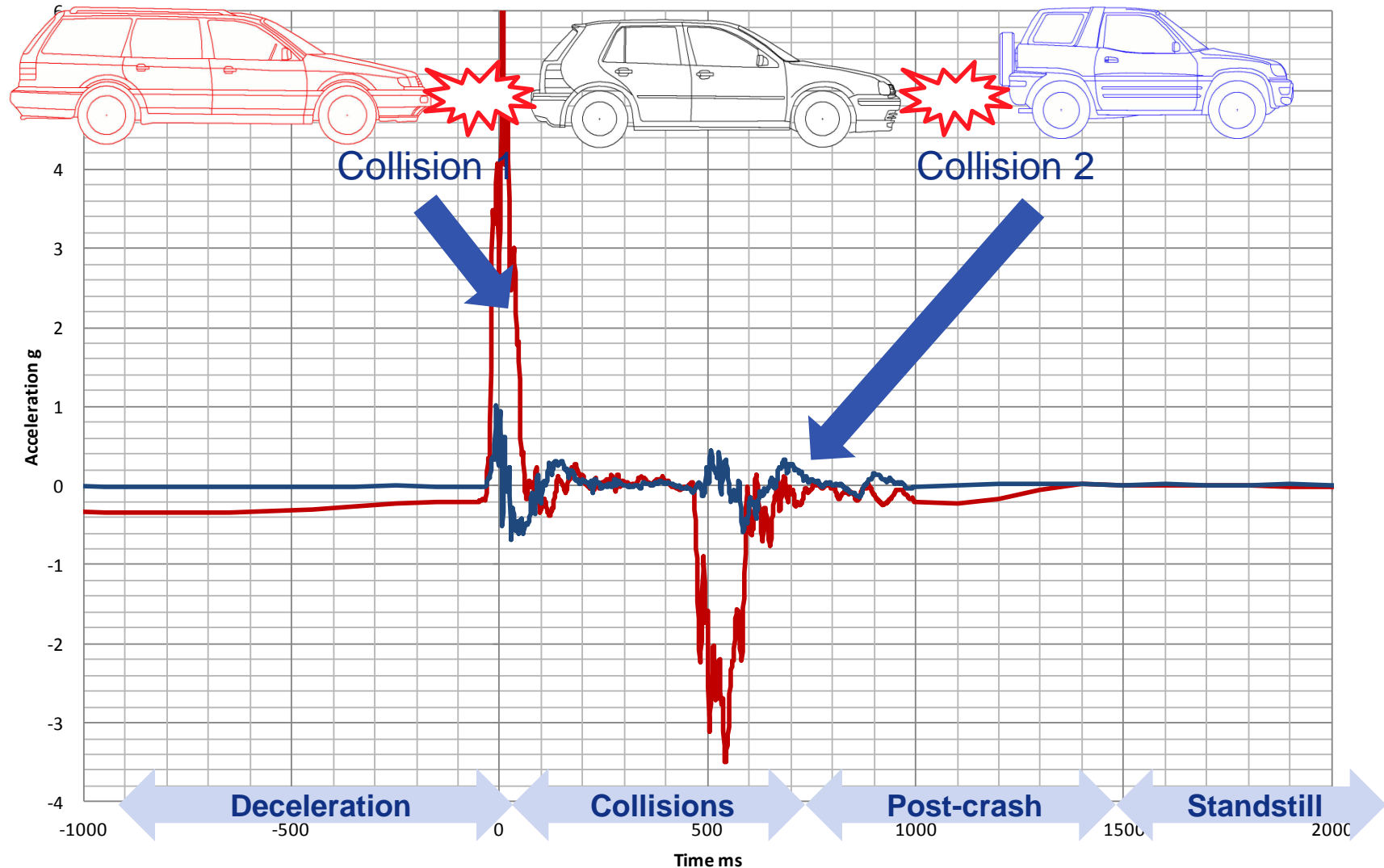


What happened



Customer

What happened



Smart Toothbrush

Not just motor



- ➔ American company has created a smart toothbrush which transmits data to a dental insurance provider
- ➔ The better the brushing score, the lower the renewal premium for the insured or increase their coverage
- ➔ Participants will receive a mobile-connected electric toothbrush and quarterly shipments of toothpaste, floss and replacement heads.
- ➔ Integrated with a smart phone app which also provides games and to encourage brushing effectively
- ➔ What next?

