

**RoSPA**

*The Royal Society for the  
Prevention of Accidents*

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# **BLACK BOX TECHNOLOGY**

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# SCOTLAND'S ROAD SAFETY FRAMEWORK

## Young Drivers

- Innovative ways to increase young drivers' awareness
- Help parents and carers to set good example
- Encourage young drivers to take post-test training
- Promote qualifications, safer attitudes & behaviour
- Public debate on young driver issues, including graduated driver licensing



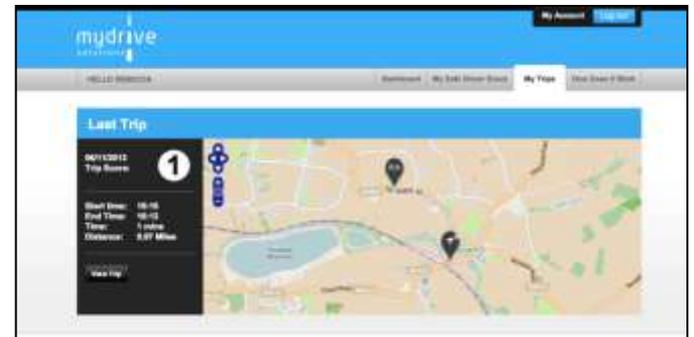
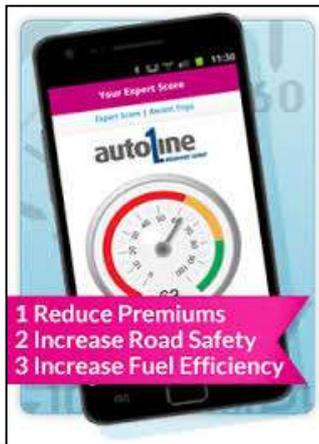
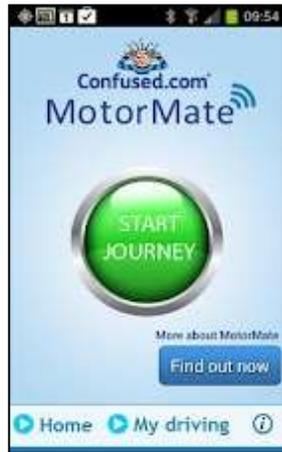
## People who Drive for Work

- Support RoSPA & ScORSA to raise employers' awareness of MORR
- Embed SAFED in freight industry & introduce SAFED for van drivers
- Raise awareness of Scottish Government staff
- Ensure contractors develop their MORR
- More rest areas in Scotland



# YOUNG DRIVERS & TELEMATICS

The development of telematics is one of the ways that many of these commitments can be addressed



# TELEMATICS

- Telematics (black boxes, Apps or OBD) captures real driving behaviour over a long period and substantial mileages
- Enables personalised risk rating to be calculated for every driver, and highlights aspects of driving to be improved
- Enables accurate analysis of driving behaviour
- Can incentivise safer driving
- Enables personalised feedback and advice to be given to drivers, and/or to third parties, such as employers or parents



# RESEARCH FINDINGS\*

## Young Drivers

- Can significantly reduce risky driving behaviours, especially among higher risk young drivers
- Effect on young driver crash rates not yet quantified

## At-work Drivers

- Crash rates reduced and cost savings

But there are knowledge gaps on how to best use telematics & issues, such as data portability, to be resolved

\*"Road Safety and In-Vehicle (Black Box) Monitoring Technology", [www.rosipa.com/roadsafety/info/black-box-technology.pdf](http://www.rosipa.com/roadsafety/info/black-box-technology.pdf)

## IMPORTANCE OF FEEDBACK

- Research emphasises the importance of feedback - driving improves more when feedback is viewed
- Recent Israeli research:
  - drivers who receive feedback improved much more than drivers who did not
  - drivers whose parents given guidance on using feedback achieved the best safety scores
- But, little detail of practical issues employers face, nor how they use it to reduce risk and costs



## YOUNG DRIVERS AT WORK (SCOTLAND) BLACK BOX PILOT PROJECT

- Therefore, Scottish Government is funding a pilot project by RoSPA to assess how employers can use telematics to improve the safety of young at-work drivers
- First research of its kind in Scotland. The aim is to identify:
  - practical issues that employers face when seeking to use telematics
  - how best employers in Scotland can make use of this type of technology, especially for young at-work drivers



# YOUNG DRIVERS AT WORK (SCOTLAND) BLACK BOX PILOT PROJECT

MyDrive Solutions Ltd supplied the 'black boxes'

- Records snapshot of driving every second, mapped onto the road network (eg, motorway or A-road, junctions, time, etc)
- Installed under dashboard of cars or small vans driven for work by young drivers - took 20 mins and no drilling
- Web portal provided on which drivers and employers could view data and feedback
- Free to employers



[www.mydrivesolutions.com](http://www.mydrivesolutions.com)



## YOUNG DRIVERS AT WORK (SCOTLAND) BLACK BOX PILOT PROJECT

Despite extensive promotion to companies already active in MORR or H&S, the number who expressed interest was relatively small

- 46 organisations expressed interest
- 32 organisations entered into detailed discussions
- 21 dropped out because they were unable to secure internal agreement
- 11 organisations eventually signed up, ranging from micro and small businesses to Local Authorities
- 69 drivers participated in the project



# DRIVER'S PORTAL

Every driver given access to their own portal to view feedback, and advice, about their driving

## Safe Drive Score

A score out of 100 (higher the better) awarded once driver has completed 250 miles. Then based on a 90 day rolling period.

## Trip Score

Following the completion of every journey, a driver is awarded a score of 1 – 5.

**mydrive** solutions

HELLO REBECCA | Dashboard | My Safe Drive Score | My Trips | How Does It Work

**44**  
SAFE DRIVER SCORE  
View Results

**Welcome back, Rebecca**

Your Safe Driver Score is average. To improve, leave more space between you and the car in front. More distance gives clearer views and more time to react to road conditions and hazards as they arise.

Break down my expert scores

**Latest Trip** | View Latest Trip

**TRIP SCORE**  
**3**

**Latest Trips** | View Recent Trips

Date	Distance	Score
08/07/2013	24.36 Miles	1
08/07/2013	23.82 Miles	1
08/07/2013	6.95 Miles	1
08/07/2013	17.06 Miles	1
07/07/2013	0.89 Miles	1

**Personal Benefits** | +

Reduce your fuel bills

Save up to 15% on monthly fuel bills by following the driving hints on your Portal Dashboard. Safe driving is economical driving, and the advice we give you is tailored to your own driving style.

Policy holder name: Rebecca Pugh | Policy Start date: 07/03/2013 | Total distance: 4714.93 Miles | Estimated Policy Distance: 14784.38 Miles | In partnership with ROSPA: www.rospa.com

# OVERALL SAFE DRIVER SCORE

## How Does It Work

### Four key areas of MyDrive:

The Safe Driver Score tells how closely you match the driving characteristics of a professionally trained advanced driver. A higher score is better, with the average driver achieving a score of around 50.

This score is influenced by how calmly you drive (i.e. non-aggressively) and how well you anticipate the actions of others using the road. Drivers who use appropriate speeds, accelerate moderately, leave a safe distance to the car in front, and brake moderately, will gain the highest score. A single harsh braking event (such as when a fox runs out in front of you) will not impact your score; always brake as hard as you need to for safety. Some insurance companies use the Safe Driver Score to price your policy, so higher scores can mean greater discounts.

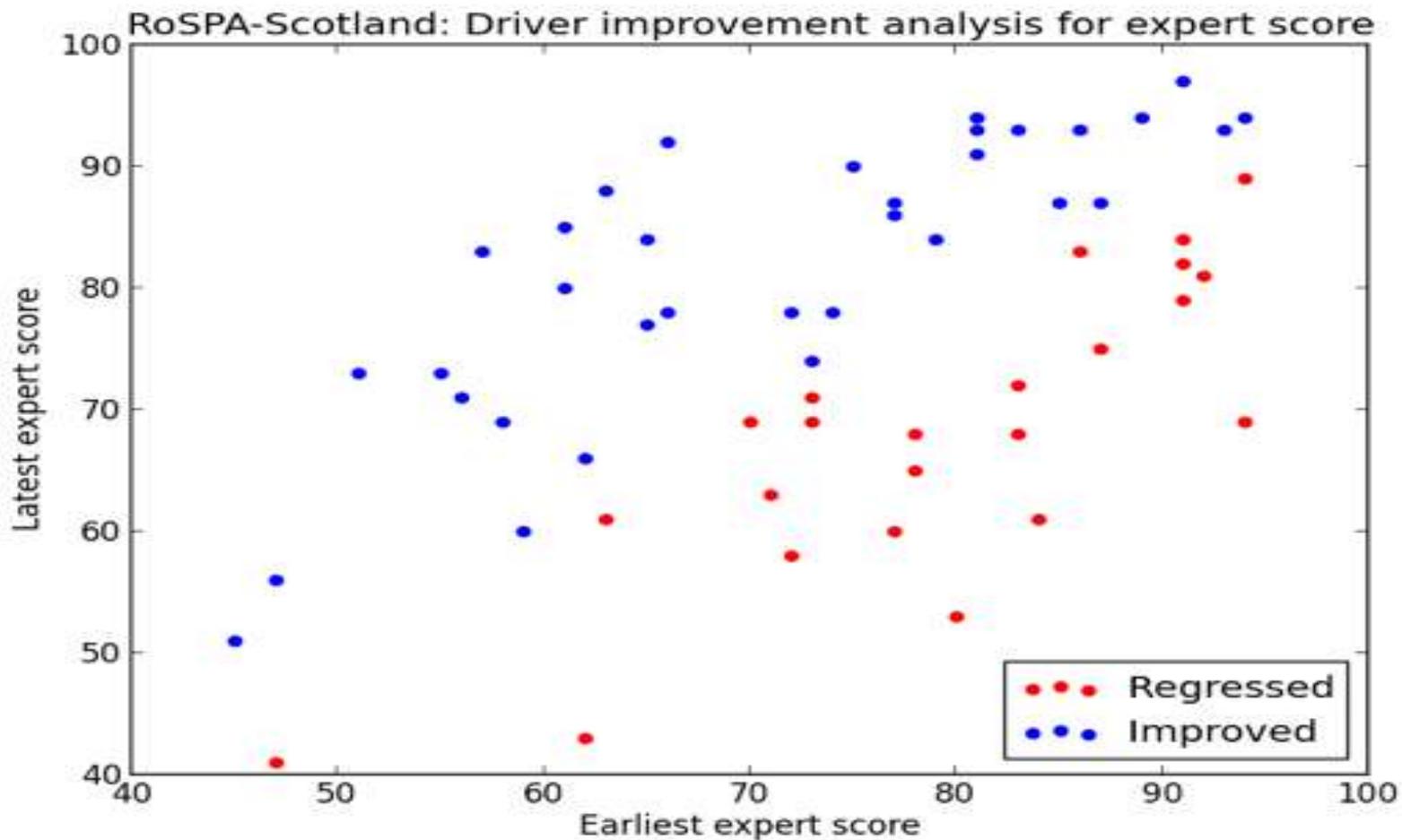


Shows how closely driving matches RoSPA Advanced Driving (Gold grade)

Combination of:

- **Pace** (appropriate speed)
- **Calmness** (moderate acceleration – reverse aggression score)
- **Smoothness** (controlled acceleration & braking)
- **Anticipation** (smooth and careful changes in speed)

# DRIVER IMPROVEMENT





## INTERIM FINDINGS: DRIVERS

- Companies need to consult individual drivers, explain the technology and its benefits and allay concerns
- Most drivers improved their driving, but some have not sustained their improvements
- Improvements may not be sustained if drivers believe nothing will happen
- Drivers need to be encouraged to view and consider the feedback on their driving - simply making the feedback accessible is not enough



## INTERIM FINDINGS: EMPLOYERS

- Need to raise awareness of employers in Scotland about this technology, even those already interested in MORR
- Challenge in gaining internal acceptance, especially from unions and safety associations
- Allays concern about using technology to track vehicle location in real-time
- Consult staff early in process
- Train managers to analyse data and use it to inform MORR activities
- Identifying individual drivers of multi-driver vehicles



# FINAL REPORT

A final Report will be published in March 2014, covering:

- Analysis of the driving data
- Evaluation of Managers' experiences
- Evaluation of Drivers' Experiences
- Evaluation of MyDrive experiences
- Good Practice Guide