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Awards WINNER 2009

YOU CAN'T MANAGE WHAT YOU CAN'T MEASURE

Presented by: Jason Airey, Managing Director, CMS SupaTrak

David Wilson, Fuel Saving Consultant

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INTRODUCING THE TECHNOLOGY

- ECOTRAK fuel saving technology has been developed in conjunction with the haulage and waste management industries
- Fleet managers needed a solution to help them reduce their fuel costs, improve efficiency, lower their vehicle carbon emissions and promote safer driving
- Fleet managers wanted targeted information, delivered in a clear and useful format which could be accessed easily at any time

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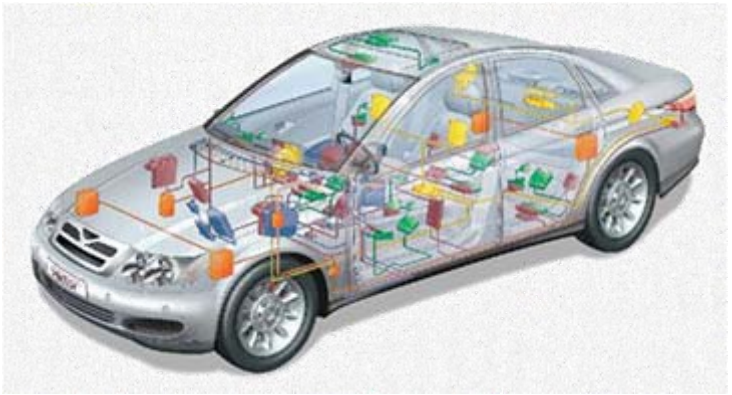
INTRODUCING THE TECHNOLOGY

- Data is collected from our black box connected to the vehicle's CANbus
- Using 2 standard protocols:
  - SAE J1979 for cars and vans
  - SAE J1939 for trucks and buses



- EcoTrak uses data from the CANbus network and in most cases, there is no requirement for FMS to be enabled on trucks and buses

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THE IMPORTANCE OF DRIVER BEHAVIOUR

- The driver is the single most important factor in achieving a safer and a more fuel and carbon efficient fleet
- Key behavioural factors include:
  - Green band driving
  - Over revving
  - Excessive braking/throttle usage
  - Engine idling
  - Speed
  - Cruise Control



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TARGETED INFORMATION

- EcoTrak reports can be scheduled or accessed on demand
- The reports deliver information selected to help understand and analyse driver and vehicle performance
- The information is available via the web based EcoTrak reporting suite, which includes real time driver league tables, driver analyses and energy efficiency reports

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MPG LEAGUE TABLE

SupaTrak : Reporting Suite

1 of 3 | 100% | Find | Next | Select a format | Export | Back | Close

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Vehicle MPG League Table - Summary

Sure Freight

Report Parameters

Vehicle Selection : [140] of [140] Selected

Dates : 01/11/2008 00:00:00 30/11/2008 23:59:59

Circuit : [UnAllocated]

Vehicle	Drivers	Target MPG	Actual MPG	Diff %	Analysis -/+ 50%	Distance	Fuel	CO2 Tonnes Emitted	CO2 Tonnes Saved	CO2 Tonnes Saved %
OUI7041 - OUI7041	1	8.00	9.49	15.66		5390.89	2583.00	6.817	1.266	15.66
RLZ 3904 - RLZ 3904	1	8.00	9.28	13.83		2273.56	1113.00	2.937	0.472	13.83
RLZ 5510 - RLZ 5510	1	8.00	8.39	4.61		5710.12	3094.50	8.167	0.395	4.61
RLZ 5501 - RLZ 5501	1	8.50	8.75	2.81		6040.07	3139.00	8.284	0.239	2.81
RLZ 5502 - RLZ 5502	1	8.00	8.15	1.79		6455.95	3602.00	9.506	0.174	1.79
ULZ 2101 - ULZ 2101	1	8.00	8.08	1.05		4981.68	2800.50	7.391	0.078	1.05
RLZ 5507 - RLZ 5507	1	8.00	8.07	0.84		7397.93	4167.50	10.998	0.094	0.84
RLZ 5504 - RLZ 5504	1	8.50	8.57	0.78		6352.37	3370.00	8.894	0.070	0.78
RLZ 5505 - RLZ 5505	1	8.50	8.30	-2.41		5360.99	2935.50	7.747	-0.182	-2.41
RLZ 5503 - RLZ 5503	1	8.00	7.76	-3.16		6939.52	4067.00	10.733	-0.329	-3.16
ULZ 2096 - ULZ 2096	1	8.50	8.17	-4.01		6748.36	3753.00	9.905	-0.382	-4.01
RLZ 5509 - RLZ 5509	1	8.50	8.10	-4.91		6990.01	3921.00	10.348	-0.484	-4.91

The MPG League Table Report gives a high level overview of driver performance.

GREEN represents drivers achieving or improving their target MPG.

RED shows drivers underperforming against their target MPG

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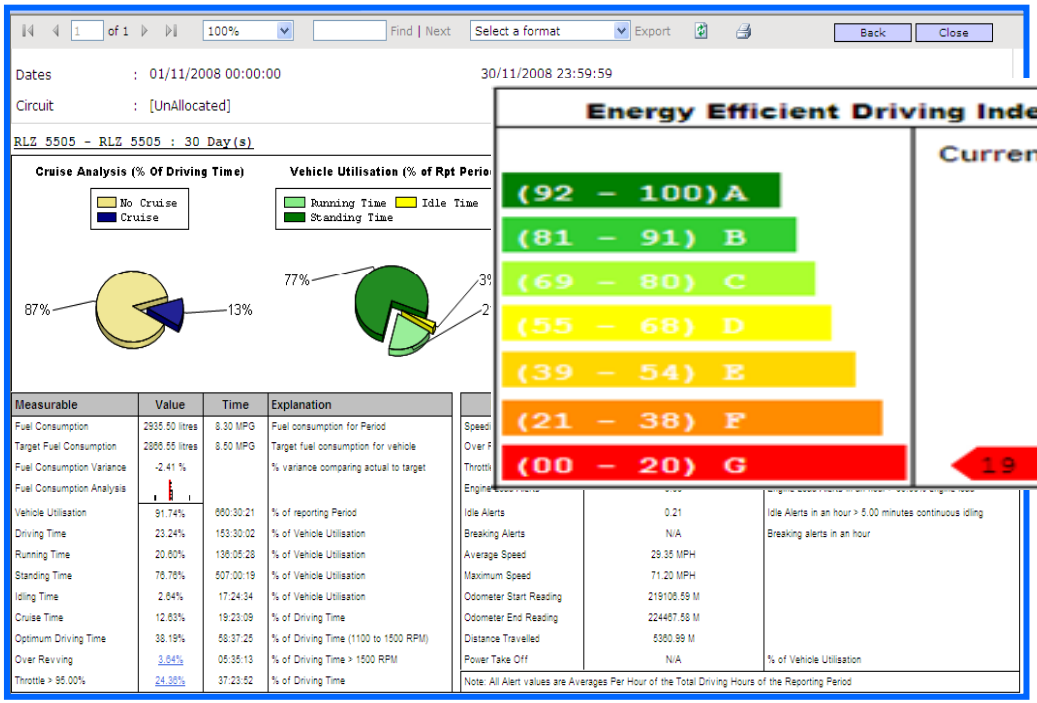
DRIVER ANALYSIS REPORT



The DRIVER ANALYSIS REPORT graphical summary of the ver performance parameters:

- Time
- e Utilisation
- um Driving Time

In addition to this, each vehicle/driver is scored on a Energy Efficient Driving Index (EEDI)

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DRIVER POINTERS REPORT

DX07 VBA -	✓ Fuel Up from 7.71 MPG To 8.56 MPG, Target Is 8.00
	✓ EEDI Up from 65 To 68, Best In Fleet is 89
	! Green Band Driving Down from 61.6% To 42.7%
	Throttle Alerts Maintained at 2
This report compares driving style with	Over Revving Alerts Maintained at 0
the following periods of driving activity:	! Idling Up from 0.0% To 2.2%
1st Period: Sun 01 November	! Speed Alerts Up from 0 To 5. Max Speed was 60.8 MPH
2nd Period: Thu 12 November	✓ Cruise Control Usage Up from 0.0% To 56.3%
	PTO Usage Maintained at 0.0%

This report compares driving style factors against historical performance to monitor driver development

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ACHIEVABLE RESULTS

Savings / Return on Investment *

Monthly Saving	**£3,290.30**	Annual Saving	**£39,483.61**
Annual CO^2 Reduction	**236.311 tonnes**		

* Savings after EcoTrak and EcoTrak+ system costs, based on 50 vehicles travelling 750 miles per week.

- Based on key assumptions, we are able to provide organisations with an potential ROI
- This includes the achievable cost savings and their potential carbon savings

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DRIVING THE CHANGE

- It is important that the project has a FUEL SAVING CHAMPION
- Some organisations already have a nominated person, or team, responsible for training and development but those who don't can take advantage of one of our FUEL SAVING CONSULTANTS
- FUEL SAVING CONSULTANTS analyse current performance, propose changes, implement SAFED approved driver training and manage ongoing improvements
- David Wilson will now present his experiences from recent deployments




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THE TRIAL PROCESS

- Objective – reduce an organisation's operating costs & carbon emissions - simultaneously promoting safer driving
- Structured process – simple but effective – managed from beginning to end
- End result - provides client with a robust savings forecast

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THE TRIAL PROCESS - BENCHMARKING

BENCHMARKING is the key to understanding the current fleet performance

Step 1

- ❑ Help client select a representative range of vehicles and routes to be benchmarked
- ❑ Install EcoTrak in chosen vehicles and run covertly to record true driving style – usually one full week
- ❑ Data now used as comparison for all future measurements

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THE TRIAL PROCESS – BRIEF & TRAIN DRIVERS

Step 2

- Project communicated to trial drivers
- Drivers are trained by network of ex-SAFED trainers -
  - intensive brief on eco-driving techniques
  - very short film on eco-driving
  - in-cab, on-road training, emphasising areas ID'd by benchmark results
  - feedback of before and after results

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THE TRIAL PROCESS – ECO BRIEFING CONTENT

- ❑ Keep engine low in the green rev band
- ❑ Keep throttle and brake foot light
- ❑ Use exhaust brake wherever possible
- ❑ Use cruise control whenever safe to do so
- ❑ Keep within the speed limit – drop top speed by 1 or 2 mph
- ❑ Plan ahead – anticipate hold-ups – keep the vehicle rolling
- ❑ Don’t idle

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THE TRIAL PROCESS - FEEDBACK

Step 3

- Feed back regular performance information to drivers via managers
- Assist managers to get used to using reports

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THE TRIAL PROCESS

Step 4

- ❑ Produce second benchmark figures
- ❑ If suitable; economy remap selected vehicle/s
- ❑ Run trial for further period
- ❑ Produce final benchmark

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THE TRIAL PROCESS - COMPLETION

Step 5

- Complete report comparing results for –
  - Initial Benchmark period - untrained
  - Benchmark 2 – drivers trained
  - Benchmark 3 – trained and re-mapped (if applicable)
  - Extrapolate results for remainder of fleet – fuel & CO2 savings
- Very important that figures are both robust & relevant

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EXAMPLE - RECENT RESULTS OVERVIEW

- Results for National Waste management company

- ❑ Driver Behaviour – 9.5% increase in MPG
- ❑ Economy Remapping – further 4% increase in MPG
- ❑ Total MPG increase of 13.5%
- ❑ Annual carbon emission reduction of over 8,200 tonnes
- ❑ Safer and more cost effective driving

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MANUFACTURER RELATIONSHIPS

DENNIS EAGLE LTD
DESIGNED WITH YOU IN MIND

EcoTrak installed on a number of demonstrator vehicles. Currently helping to monitor dual fuel vehicle (CNG) savings. Future option to include factory fit on new vehicles.

GEESINKNORBA

EcoTrak installed on a number of demonstrator vehicles including plug-in electric waste vehicle. Real time body CAN data.

HEIL

EcoTrak installed in Mercedes FEL demonstrator to help monitor fuel consumption. EcoTrak+ used to reduce RPM/noise when PTO is in use.

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CARBON VERIFICATION

- EcoTrak has recently been carbon verified to the Diamond Standard Carbon Exchange Ltd (DSCEL) by Complete Integrated Certification Services (CICS)
- Customers using EcoTrak agree to pass ownership of the carbon they have reduced to DSCEL. Benchmarking module used to measure savings
- DSCEL then sell this and the money made is then reinvested into further carbon reduction projects

CARBON SAVINGS VERIFIED TO THE **DIAMOND STANDARD**

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QUICK FIXES FOR EXISTING VEHICLES

- ❑ Driver Training
- ❑ Engine Remapping
- ❑ Fuel Additives
- ❑ Vehicle Aerodynamics
- ❑ Tyres
- ❑ Oil Additives
- ❑ Eco Driver Assist

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LONGER TERM

- Medium Term
  - Duel fuel
    - CNG & bio diesel
    - Hydrogen
  - Electric vehicles
  - Hybrid vehicles
- Future
  - Hydrogen fuel cells

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ANY QUESTIONS?

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