

Vehicle Telemetry for Proving Ground Management

A NEW solution to monitor a whole fleet of test vehicles

1. IMPROVE PROFITABILITY

- Decrease test time = increase productivity
- Reduce communications with control center
- Simplify control procedures
- Minimize overall control costs
- Undisputable billing – paper use
- Increase testing value

Summary Report

Report generation: 11/08/2008 1:55:00 PM
Previous report: 11/09/2008 1:40:00 PM

Summary

Vehicle Number	Model	Type	Vehicle Serial #	Requested Hours	Hours	Engine Hours	Hours Left	% Hours Done	Since Last Report Hours	Alarms	Trips	Status	Comment	Manager
14	BR350, Caterpillar	BR350, Caterpillar	2097	500	17.27	17.27	482.73	3.5%	17.27	1	5		BR350, Caterpillar	
15	BR350, Caterpillar	BR350, Caterpillar	3135	500	10.63	10.63	489.37	2.1%	7.76	1	2		BR350, Caterpillar	
16	BR350, Caterpillar	BR350, Caterpillar	3163	500	15.26	15.26	484.74	3.1%	15.26	1	2		BR350, Caterpillar	
17	BR350, Caterpillar	BR350, Caterpillar	3128	500	10.63	10.63	489.37	2.2%	7.43	1	2		BR350, Caterpillar	
18	BR350, Caterpillar	BR350, Caterpillar	3155	500	13.46	13.46	486.54	2.7%	7.04	1	3		BR350, Caterpillar	
19	BR350, Caterpillar	BR350, Caterpillar	3124	500	59.28	59.28	440.72	11.9%	0.00	0	0		BR350, Caterpillar	
20	BR350, Caterpillar	BR350, Caterpillar	3136	500	10.28	10.28	489.72	2.1%	9.06	1	1		BR350, Caterpillar	
7									63.81	171	16			

Vehicles reports

Vehicle number 14

Report	Start	End	Imported in database	Hours	Alarms
Historical report	12:00:00 AM	11/08/2008 1:55:00 PM			
Trip report	26/02/2008 4:22:12 PM	27/02/2008 12:42:13 AM	11/08/2008 1:53:35 PM	8.18	68
Trip report	27/02/2008 1:02:22 AM	27/02/2008 3:48:28 AM	11/08/2008 1:53:35 PM	2.72	18
Trip report	27/02/2008 4:47:22 AM	27/02/2008 8:11:08 AM	11/08/2008 1:53:35 PM	3.25	24
Trip report	27/02/2008 10:40:24 AM	27/02/2008 5:13:22 PM	11/08/2008 1:53:35 PM	1.25	8
Trip report	27/02/2008 5:30:01 PM	27/02/2008 7:24:15 PM	11/08/2008 1:53:36 PM	1.07	18

HTML report emailed daily to the engineering team

ISAAC Your Company Name
Your Street Name
Your City, Your Province, Your Zip, Your Country

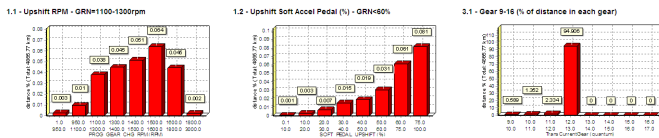
Summary

Driver	Vehicle	Date	Time (hh:mm)	Statistics
Last name Smith	Number 37031	Start 2009-06-03 1:57 PM	Total 120:41	Distance (km) 4855.6
First name Activity	Description Model XYZ	End 2009-06-08 7:38 PM	Drive 96:01	Avg. Speed (km/h) 86.2
Activity Duration (km)	Transfer 107051	2009-06-09 1:02 PM	Idle 5:00	Fuel Eco. (l/100km) 41.0
Tot. revs	Generation 10232542	2009-06-09 1:41 PM	Stop 63:41	Max Speed (km/h) 1997.0
				Eng. Idle (%) 9.7
				Utilization (%) 44.8

Events

Description	Quantity	Time (hh:mm:ss)	Maximum
FE-1 A RED-Idle > 5 min	19	5:22:51	1809:58
FE-8 A CruiseON (Total Time)	183	38:29:54	1:00
SA-2 A RPT-Idle-Road	5	0:00:00	1:30
SA-2 D YEL-Brake Ctrl 50-90km/h	286	0:23:54	1:00
SA-2 E RED-Brake Ctrl 90-90km/h	101	0:04:09	1:00
SA-2 F RED-Brake Ctrl >90km/h	94	0:04:01	1:00
SA-3 A RED - Speed >105km/h	36	0:05:42	110:70

Profiles

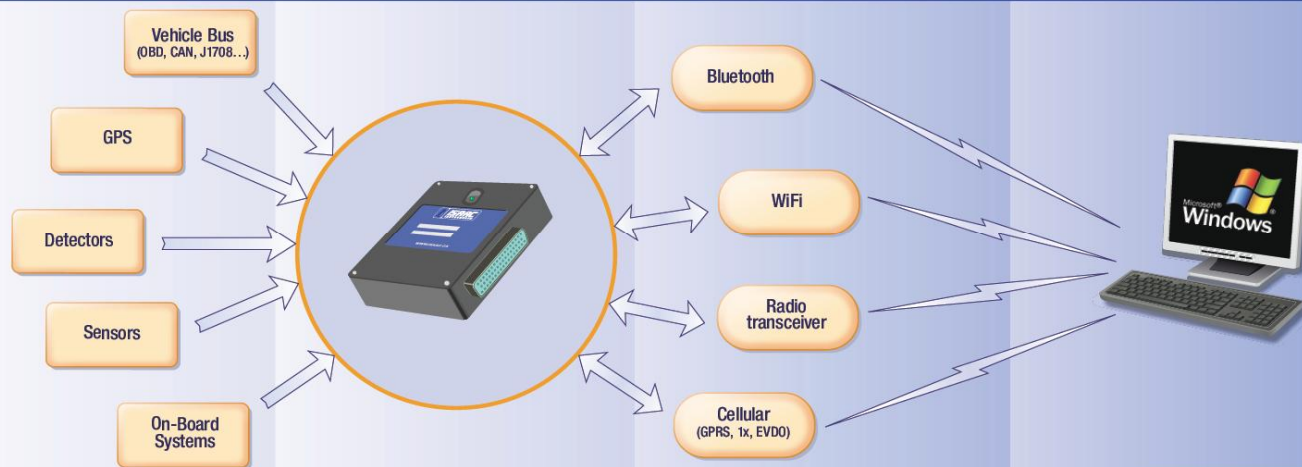


Report generated for a given period, vehicle or driver


3. ENSURE SAFETY

- Accurately manage vehicle traffic by eliminating voice communications delays
- Enforce speed limits
- Manage spacing, timing and prevent collisions
- Improve response time in case of accidents
- Prevent mechanical failures by monitoring CAN-BUS and sensor data
- Provide all weather visibility

Real-time monitoring of vehicle parameters and position as they are being driven

*Sensors**Recorders**Connectivity**Software**Vehicle Telemetry*

Data Recording Units - 900 series

	900	908	908-SLD	916
				
Internal sensors	3 internal accelerometers $\pm 2G$ or $\pm 6G$ Recorder temperature Recorder voltage			
Universal external inputs	0	8	8	16
Communication ports	2 x CAN 2.0a/b (SAE-J1939, SAE-J1979, ISO15765) 1 x SAE-J1708/SAE-J1587 3 x COM ports (Wi-Fi, Bluetooth, Cellular-GPRS, 1x, Ethernet) 1 x USB 2.0 full speed			
Sampling rates	Up to 4 kHz per input (non-aggregate)			
Memory size	512 MB (4GB option)			
Memory backup	All data is protected in case of power loss			
Operating temp.	-40 °C to +85 °C			
Enclosure	IP65 Blue Anodized Aluminum 10 x 11 x 2.5 (cm)	IP65 Black Anodized Aluminum 10 x 11 x 2.5 (cm)	IP67 Black Anodized Aluminum 10 x 11 x 3 (cm)	IP65 Black Anodized Aluminum 10 x 11 x 4.8 (cm)