Can technology deliver productivity, safety and environmental outcomes?

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Transport Certification Australia

- A national government organisation
- TCA provides **advice**, **accreditation** and **administration** services
- Governments recognise that vehicle telematics is an enabler for regulatory reform
- TCA provides **assurance** to all stakeholders

Managing risk

The effective use of technology provides a negotiating platform for transport operators

There are opportunities to ‘squeeze’ more access from vulnerable infrastructure…..

…..so long as road managers and transport operators **work in partnership** to manage risk

Queensland is already making it happen

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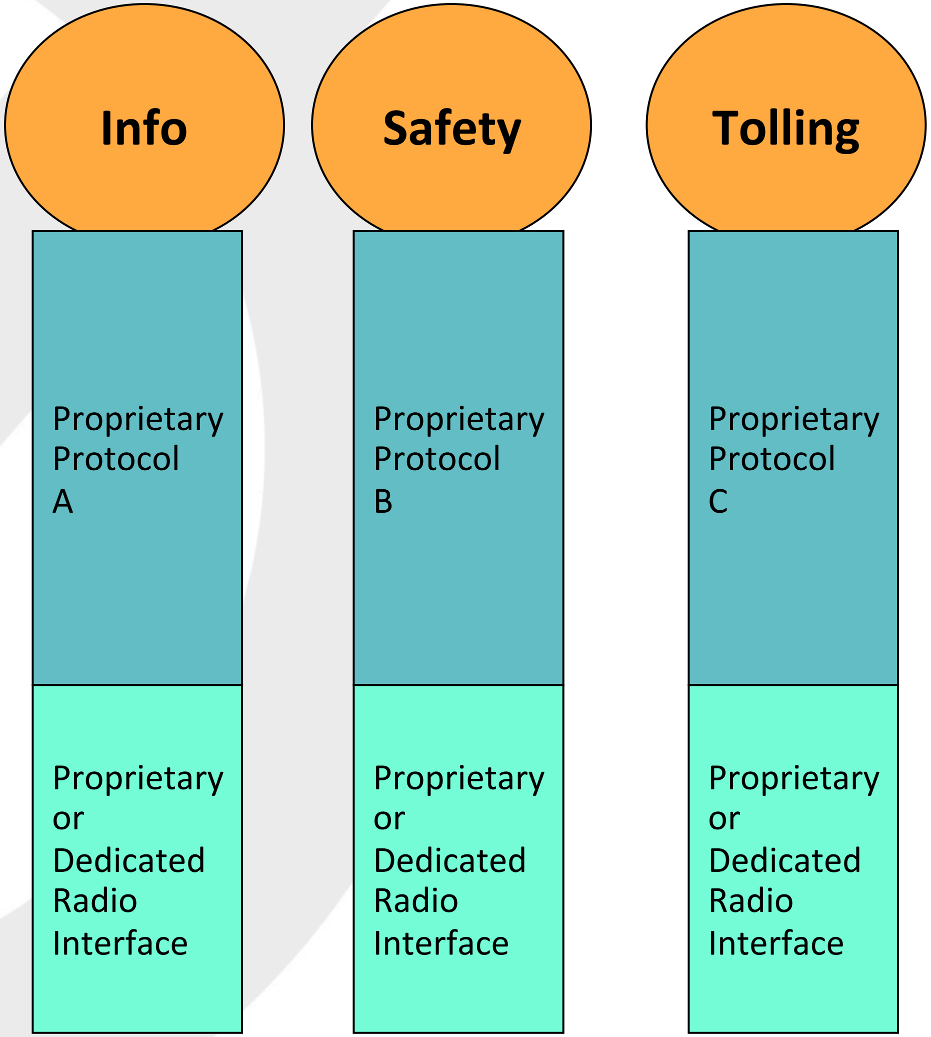
On the **Port of Brisbane to Toowoomba corridor**, transport operators can now carry two 40 foot containers on PBS 2B vehicles up to 79 tonnes gross combination mass (GCM)

Previously, transport operators were limited to a single combination due to infrastructure limitations

Transport operators are reporting productivity gains of up to:

100% for the carting of grain
a reduction in truck trips by 50%
a saving in fuel use of up to 40%

Where we started …



Info

Proprietary Protocol A

Proprietary or Dedicated Radio Interface

Safety

Proprietary Protocol B

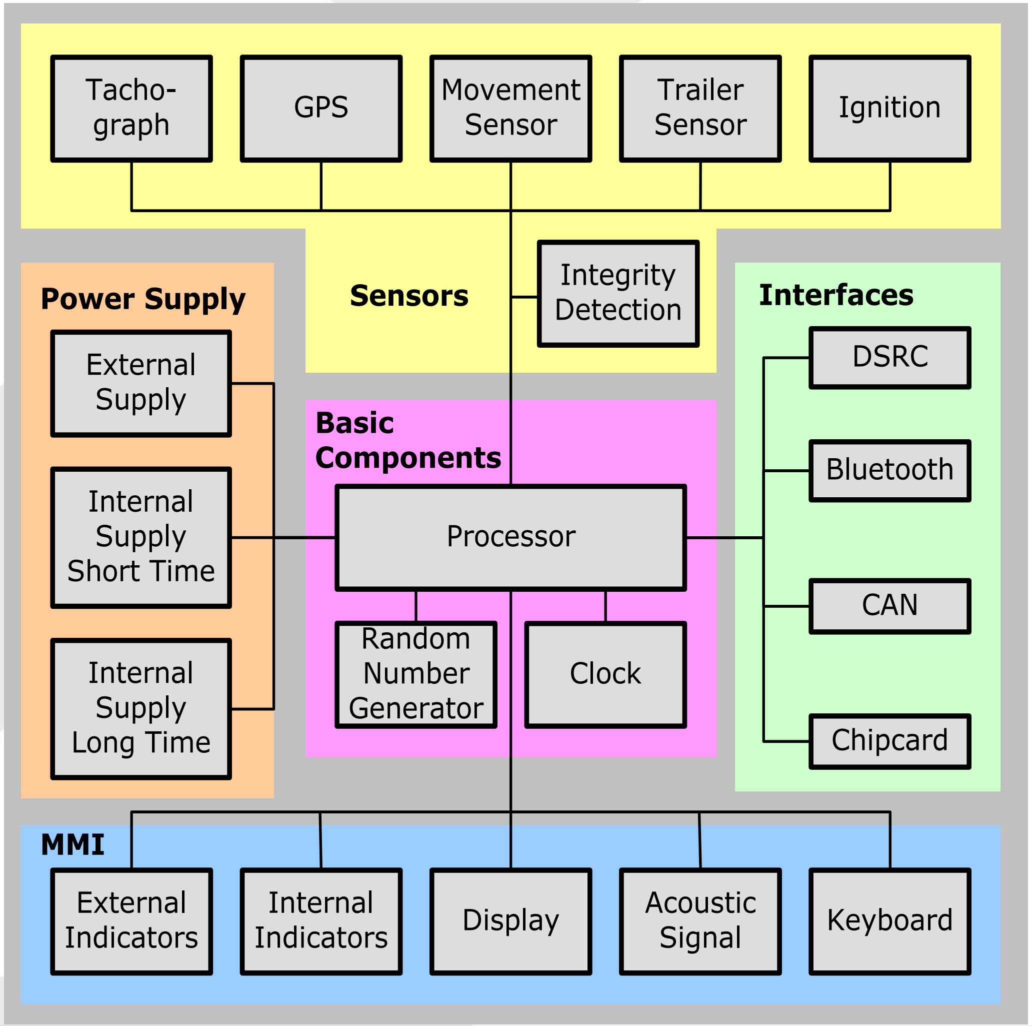
Proprietary or Dedicated Radio Interface

Tolling

Proprietary Protocol C

Proprietary or Dedicated Radio Interface

Components of Swiss unit



Sensors

Tacho-graph

GPS

Movement Sensor

Trailer Sensor

Ignition

Integrity Detection

Power Supply

External Supply

Internal Supply Short Time

Internal Supply Long Time

Basic Components

Processor

Random Number Generator

Clock

Interfaces

DSRC

Bluetooth

CAN

Chipcard

MMI

External Indicators

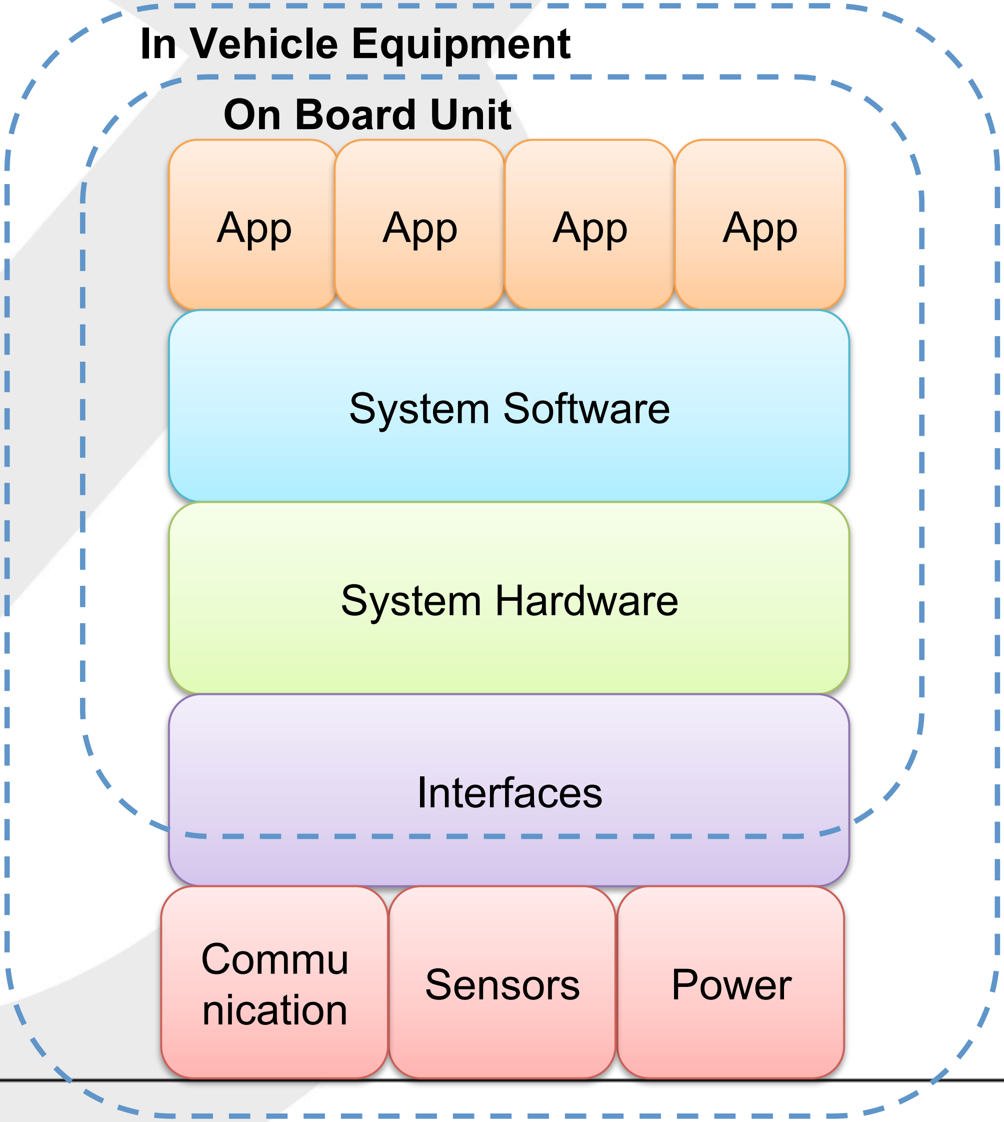
Internal Indicators

Display

Acoustic Signal

Keyboard

Architecture – platform options


In Vehicle Equipment

On Board Unit

App

App

App

App

System Software

System Hardware

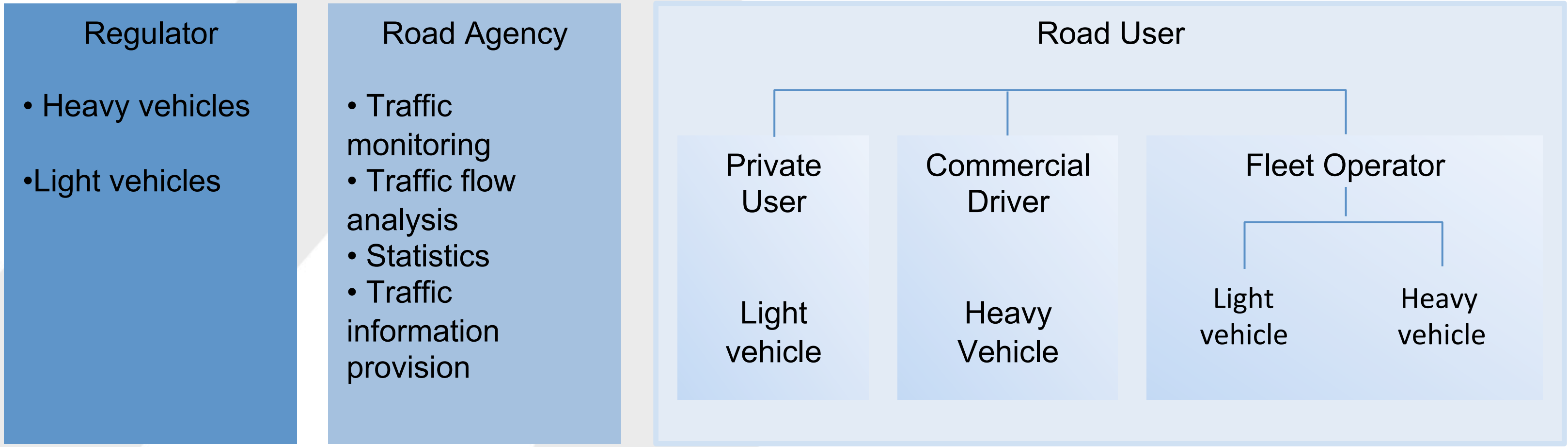
Interfaces

Commu nication

Sensors

Power

Applications – who benefits?



Regulator

- Heavy vehicles
- Light vehicles

Road Agency

- Traffic monitoring
- Traffic flow analysis
- Statistics
- Traffic information provision

Road User

- Private User
  - Light vehicle
- Commercial Driver
  - Heavy Vehicle
- Fleet Operator
  - Light vehicle
  - Heavy vehicle

Sharing of the benefits

Features of Technology

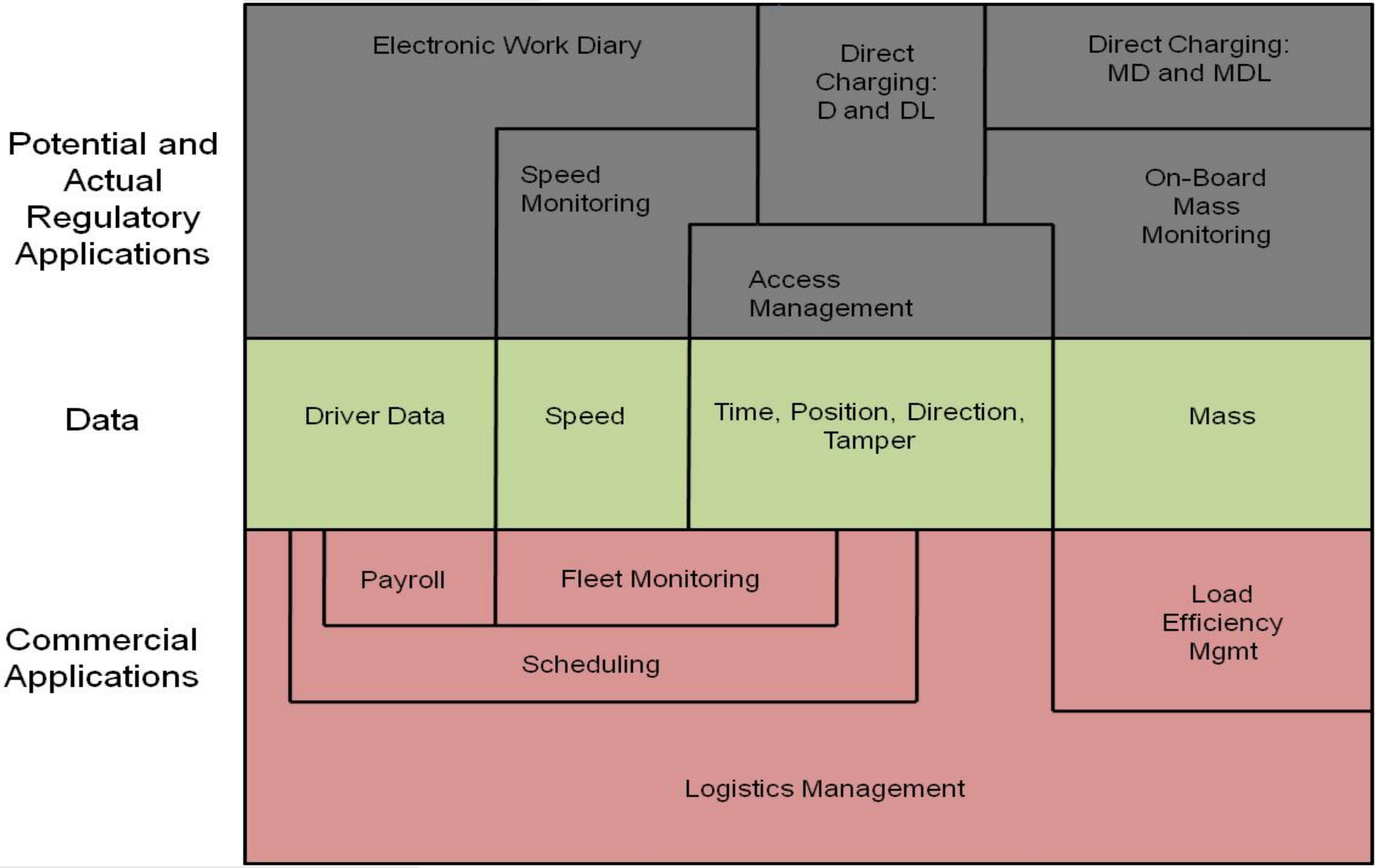
Productivity outcomes

Transport Operators | **Drivers** | **Regulators**

Safety outcomes

Transport Operators | **Drivers** | **Regulators**

Collect once, use many times



Potential and Actual Regulatory Applications

Electronic Work Diary

Direct Charging: D and DL

Direct Charging: MD and MDL

Speed Monitoring

On-Board Mass Monitoring

Access Management

Data

Driver Data

Speed

Time, Position, Direction, Tamper

Mass

Commercial Applications

Payroll

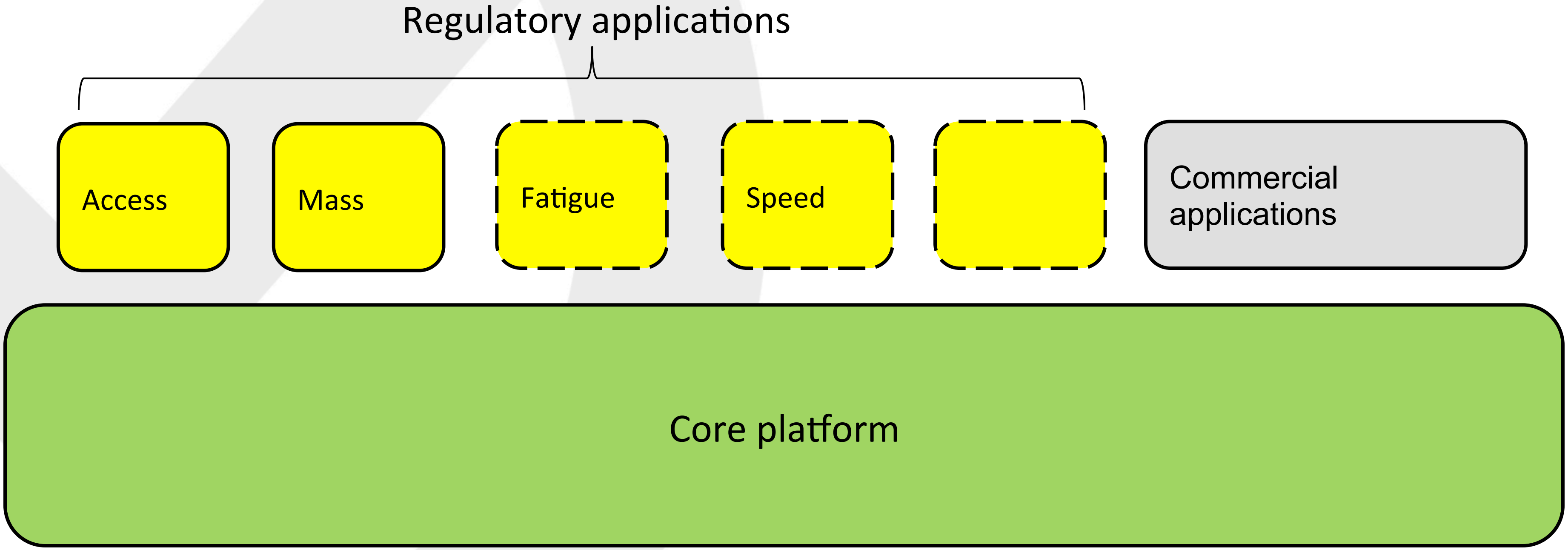
Fleet Monitoring

Scheduling

Load Efficiency Mgmt

Logistics Management

Multi-application platform



Regulatory applications

Access

Mass

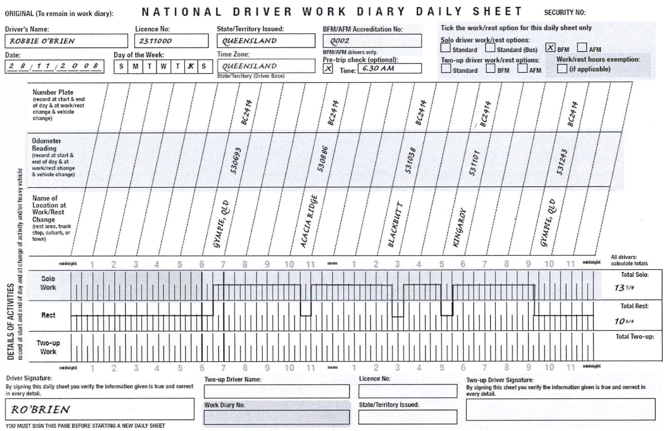
Fatigue

Speed

Commercial applications

Core platform

Use case: work diary tachograph



ORIGINAL (To remain in work diary):

NATIONAL DRIVER WORK DIARY DAILY SHEET

SECURITY NO:

Driver's Name: ROBBIE O'BRIEN

Licence No: 2311000

State/Territory Issued: QUEENSLAND

BFM/AFM Accreditation No: Q002

BFM/AFM drivers only.

Date: 28/11/2008

Day of the Week: S M T W T [✓ F] S

Time Zone: QUEENSLAND

State/Territory (Driver Base)

Pre-trip check (optional): ☒ Time: 6.30 AM

Tick the work/rest option for this daily sheet only

Solo driver work/rest options: ☐ Standard ☐ Standard (Bus) ☒ BFM ☐ AFM

Two-up driver work/rest options: ☐ Standard ☐ BFM ☐ AFM

Work/rest hours exemption: ☐ (if applicable)

Number Plate (record at start & end of day & at work/rest change & vehicle change)	BC2414	BC2414	BC2414	BC2414	BC2414
Odometer Reading (record at start & end of day & at work/rest change & vehicle change)	530693	530886	531038	531101	531243
Name of Location at Work/Rest Change (rest area, truck stop, suburb, or town)	GYMPIE, QLD	ACACIA RIDGE	BLACKBUTT	KINGAROY	GYMPIE, QLD

DETAILS OF ACTIVITIES

record at start and end of day and at change of activity and/or heavy vehicle

midnight 1 2 3 4 5 6 7 8 9 10 11 noon 1 2 3 4 5 6 7 8 9 10 11 midnight

Solo Work

Rest

Two-up Work

All drivers: calculate totals

Total Solo: 13 1/4

Total Rest: 10 3/4

Total Two-up:

Driver Signature:

By signing this daily sheet you verify the information given is true and correct in every detail.

RO'BRIEN

YOU MUST SIGN THIS PAGE BEFORE STARTING A NEW DAILY SHEET

Two-up Driver Name:

Licence No:

Work Diary No:

State/Territory Issued:

Two-up Driver Signature:

By signing this sheet you verify the information given is true and correct in every detail.

1h02h00 •02h00
2h02h00 17:32
GRUNDIG
1⊙01h00 ⊞00h15
2⊙01h00 11:15
SIEMENS VDO
12:50• 75km/h
123456.7km

?

May 2010
2010 May

The 4 pillars of the application

Specification (technical)	**Operational Environment**
Legislative Framework (policy)	**Business Model (commercial)**

ISO Management Systems

ISO 9001

2008

Quality

14001

2004

Environment

27001

2005

Security

39001

DIS 2012

Road Traffic Safety

Scope of ISO DIS 39001

This International Standard requires that the organisation develops, implements and maintains procedures and processes as part of a safety management system that can be integrated into the organisation's:

- overall governance
- strategy and planning
- management
- reporting procedures
- policies
- values (beliefs and attitudes)
- culture
- legal compliance

The vision

- Imagine the car/truck as another telematics environment, *like the home or workplace*
- In-vehicle plug and play connectivity
- Regulatory services supporting transport productivity
- Safety applications embedded in the vehicle

Transport Certification Australia

Thank you