Pioneers of Unified Fuel Management

Banlaw FuelTrack™

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UNIFY YOUR FUEL SUPPLY

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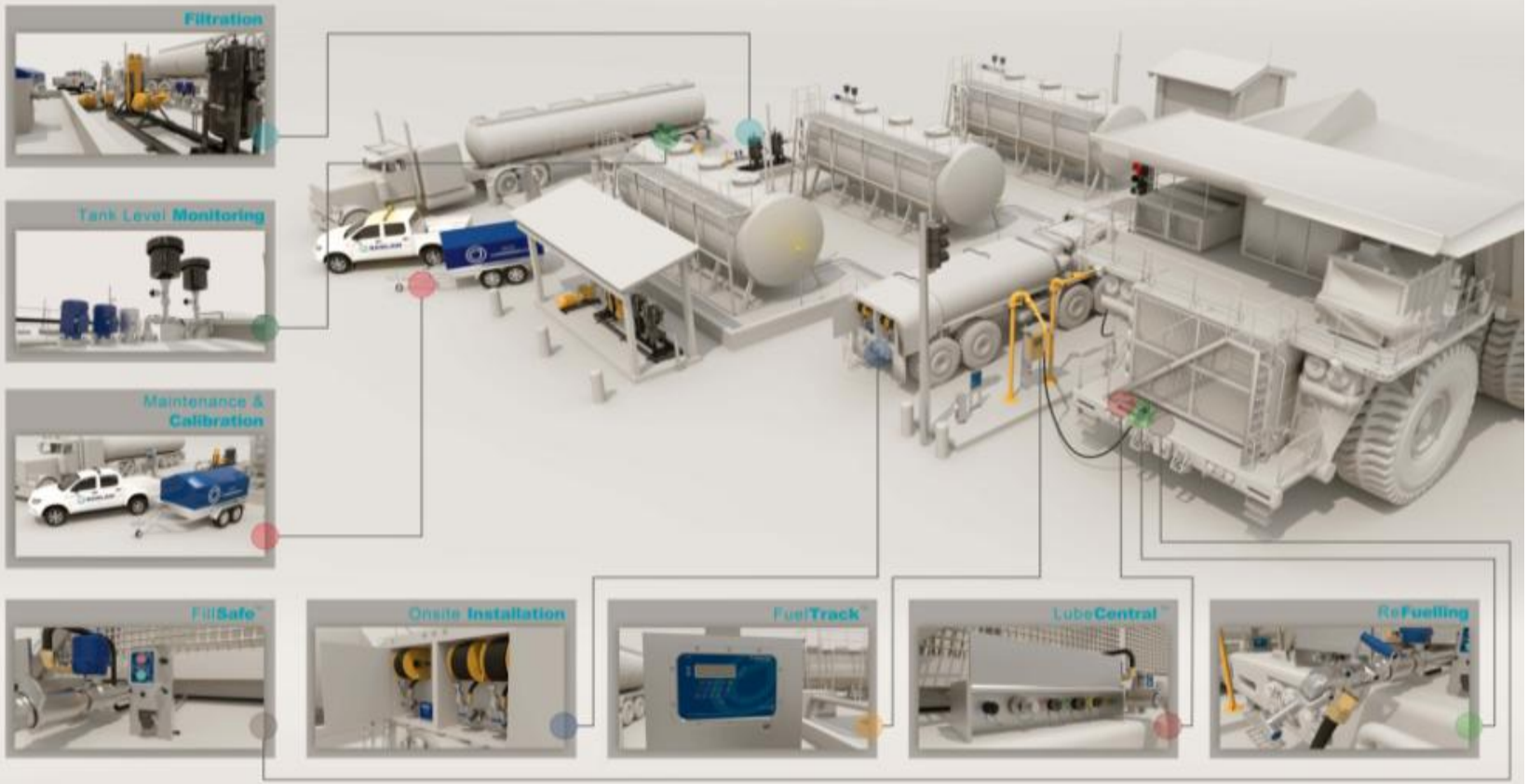
Overview

- **Banlaw are specialists in refuelling hardware, fuel management and facilities maintenance**
- Over **30 years experience** in Manufacturing Refuelling Systems and H
- Exports to more than 30 countries
- Registered patents, trademarks & copyright
- **Innovative R&D program**
- QA Certification to AS NSZ ISO 9001:2008
- Mechanical, electrical & IT capabilities

Certified System ™
Quality
ISO 9001
SAI GLOBAL

Total Solution - Banlaw designs, tests, manufactures, installs & supports all of our products

One Stop Solution



Key Markets

Banlaw products are aimed at the following end user markets…

- Mining and Quarrying
- Rail Logistics
- Port and Bulk Handling Facilities






Why An Integrated Hydrocarbon Management System?

- Fuel Reconciliation
- Fuel Security
- Environmental Compliance
- Contamination Control - Housekeeping - Cleaner, Safer, Faster
- Fleet Maintenance Mgt - Condition Monitoring
- Fuel Budgeting by Department or Cost Centre
- Escalating Oil Prices
- Carbon Emission Management

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Fuel Today

To People:

- Like Gold ➔ Fuel is Cash
- 20 lts Diesel > 1 days pay in Asia
- 1 ounce gold > 3 years pay in Africa
- 4WD (80lts) = approx 3hrs pay in Australia

To Companies with large fleets:

- 2nd largest cost behind Payroll
- Payroll – 1 or more people dedicated
- Fuel Mgt - No single dedicated focus
- Fuel Mgt split responsibility across different depts.
- Spreadsheet/Manual reconciliation system
- Isolated Dispensing control

End Users

- **Mines > 10% Unaccountability**
- **Generally it's used legitimately BUT not always!**
- **Why & Where's it go?**
  - Human or meter error:
  - Delivery
  - Dispensing
  - Stocktake (Dip & Readings)
  - Reconciliation
  - Spillage
  - Temperature compensation inaccuracy
  - Evaporation
  - Theft

Unaccountable Fuel

- **The Solution → Accurate Automated Reconciliation:**
  - It Identifies the problem areas
  - Allows you to act

You can't manage what you can't accurately measure!

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The Prize

1. Accurate Reconciliation > 99.5% (EPA, FTC, CPR)
2. Security
3. Improved cost management & accountability
4. Minimised Theft & Losses - Get what you pay for
5. Safety (trips & falls)
6. Environmental audit trail
7. Environmental - Minimise Spills & Waste Streams
8. Productivity:
    a) Don't run out of fuel or oil where you need it
    b) Maximise refuelling rates
    c) Minimise downtime
9. Significant $$$ savings

Some Banlaw Clients

Barrick Gold - All 8 Nth American Mines	Canada, Dominican Republic, USA
Barrick Gold - All 6 Australian Mines	Australia
Anglo American Coal - All 5 Australian Mines	Australia
Rio Tinto - ERA Mine	Kakadu, NT, Australia
Rio Tinto - Comalco Weipa	Weipa, Qld, Australia
Rio Tinto - Pacific Coal – Hail Creek	Mackay, Qld, Australia
Rio Tinto - Pannawonnica	Pilbara , WA, Australia
Rio Tinto - Simandou	Guinea, West Africa
KPC Mine	Indonesia
Vale Moatize Mine	Mozambique
Vale Integra Mine	NSW, Australia
BHP Billiton – Cannington Mine	Mt Isa, Qld, Australia
FMG Cloud Break Mine	Pilbara, WA, Australia
FMG Christmas Creek Mine	Pilbara, WA, Australia
FMG Solomon Mine	Port Headland, WA, Australia
FMG Sth Headland Rail Workshop	Port Headland, WA, Australia
FMG Port	Port Headland, WA, Australia
Perilya Mine	Broken Hill, NSW, Australia
Muswellbrook Coal Mine	Muswellbrook, NSW, Australia

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Case Study – KPC Mine, Indonesia

- Exports 37 million tonnes Coal PA
- + 2700 registered vehicles using:
  - 1,700,000 litres per day
  - 52,000,000 litres per month
  - 620,000,000 litres per Annum
- Each Litre is moved 5 times before consumed
  - 250 million movements month
  - 2.8 billion movements PA
- 16 Fuel Trucks
- 7 Fuel farms & refuelling points

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Case Study – KPC Mine, Indonesia

The Problem:

- > 1 million litres per month unaccounted
- > $900k per month unaccounted
- No measurement system to identify the risk areas
- Limited experience in complex Fuel reconciliation

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Case Study – KPC Mine, Indonesia

The Solution:

- Installed FuelTrack $3.5m
- 45 Depot units ➔ accurate measurement
- Identified risks
- Changed custody transfer points
- 18 months later ➔ >99.5% accountability
- Customised Reconciliation
- Payback < 12 months
- Ongoing savings > $8m PA
- Everybody's happy!

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Case Study 2 – Anglo Dawson, QLD, Australia

- Exports 7 million tonnes Coal PA
- Mine is 170 km long
- + 500 registered vehicles using:
  - 300,000 litres per day
  - 9,000,000 litres per month
  - 108,000,000 litres per Annum
- Supplied road ex Gladstone
- 3 Fuel Trucks
- 7 Mobile Inpit Fuel farms
- 3 refuelling points

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Case Study 2 – Anglo Dawson, QLD, Australia

The Problem:

- 300,000 litres per month unaccounted every month.
- $300k per month unaccounted
- No measure measurement system – In or Out
- Limited experience in Fuel reconciliation

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Case Study 2 – Anglo Dawson, QLD, Australia

The Solution:

- Installed FuelTrack $550k
- 13 Depot units ➔ accurate measurement
- Identified risks
- 5 years later ➔ >99.6% accountability
- Inward delivery reconciliation
- Payback < 12 months
- Ongoing savings > approx $3.6m PA.
- Everybody's happy!

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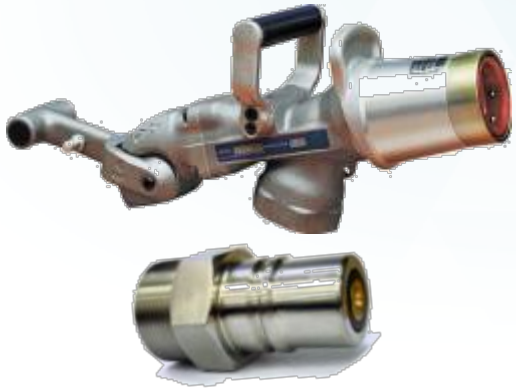
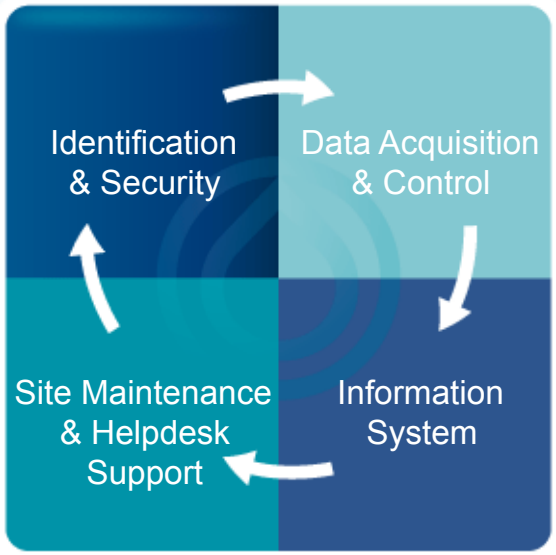
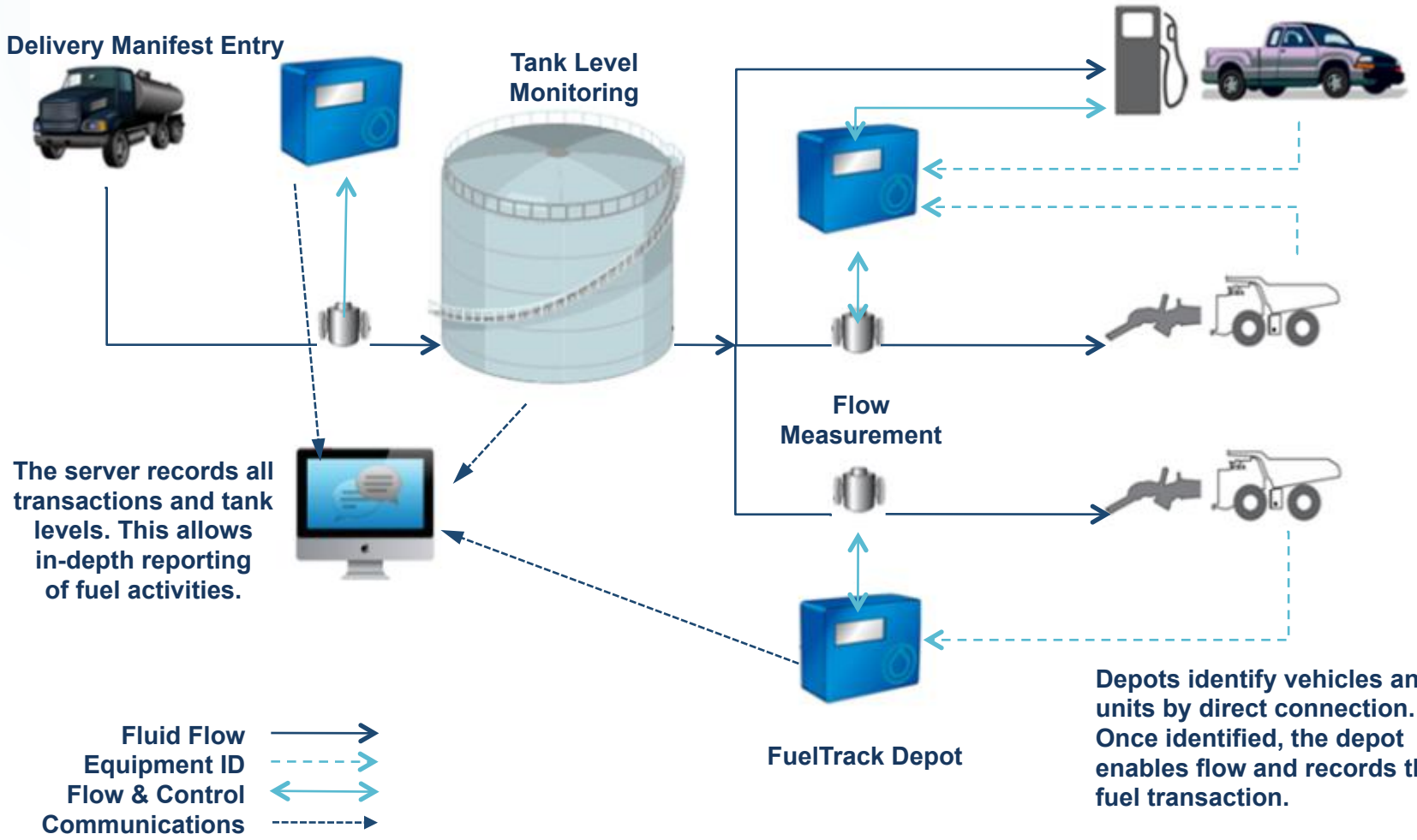
FuelTrack Overview - 4 Key Components → Reliable FMS





FuelTrack System - Architecture



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Cold FuelTrack Installations

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Hot FuelTrack Installations

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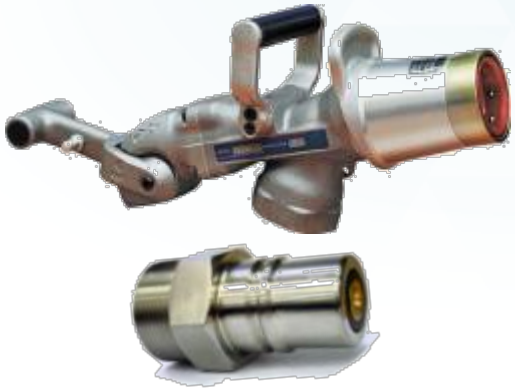
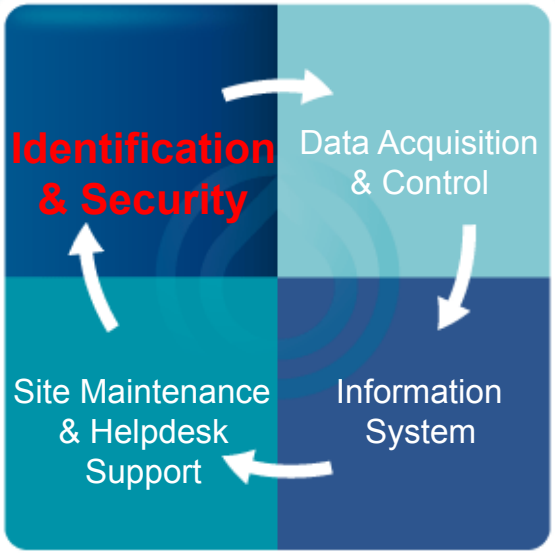
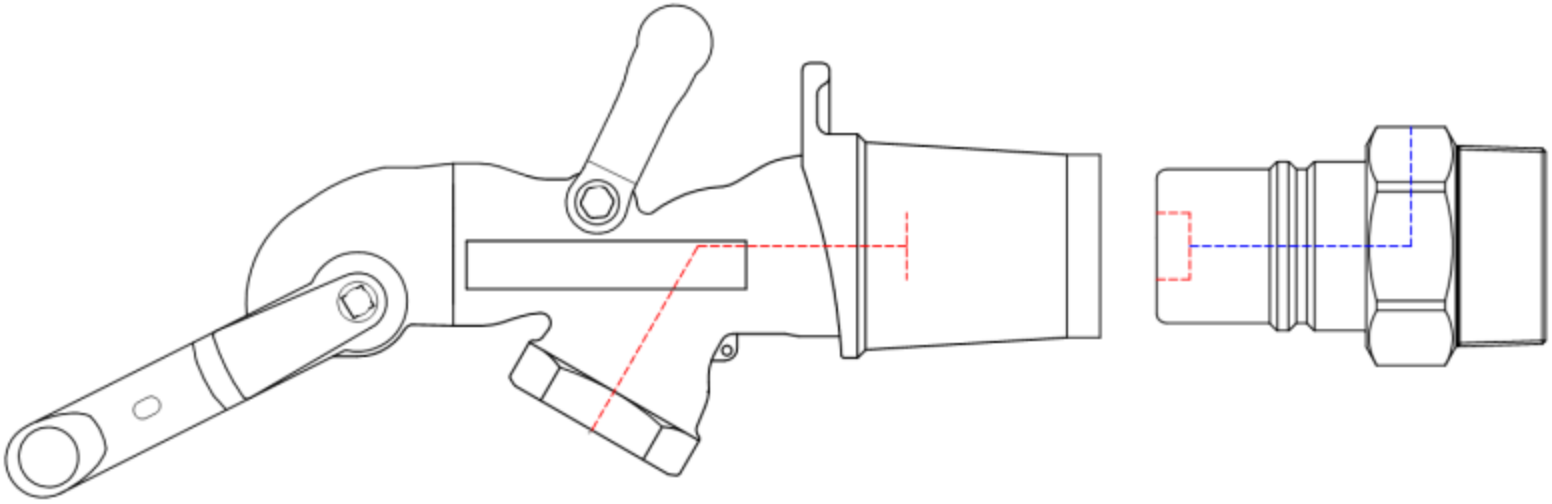




Unit ID - Dry Break Bulk Fill System

Banlaw patented dry-break automatic identification system:

- Only dry-break AutoID system of its type
- Direct contact identification
- Normal refueling operation
- No operator intervention required for equipment identification



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Unit ID - Dry Break Bulk Fill System

Unit ID – Splash-fill System

Splash-fill proximity AutoID system:

- RFID tags are placed adjacent to vehicle fill points. This ensures fuel cut-off upon nozzle removal
- Fuel dispensed to the identified piece of equipment only
- No operator intervention required for equipment identification
- Ring style tag mounts around equipment filling point are also available if required
- No change to existing refuelling procedures

Unit ID – RFID Cards & Manual Keypad

RFID Security Cards

- Cost effective method of identifying vehicles and / or refuelling personnel.
- User identifies the vehicle or the themselves by placing the Security Card against a “reader” that is mounted on the face of the FMS Depot.
- The Security Card is recognised by the FMS Depot and on validation the user is allowed to refuel.

RFID Card

Keypad Manual Entry

- Vehicle and user recognition can be achieved by entering a eight (8) digit PIN via the keypad on the Depot Unit Console.
- On Validation the user is allowed to refuel.


RFID Card Reader

Unit ID – Long Distance RFID Cards

- RFID Tags are used for the identification of vehicles, ships, fuel tankers etc. that don't use standard refuelling equipment.
- The RFID Tag is installed on the vehicle and the FMS RFID reader identifies the RFID Tag when the vehicle / equipment is in proximity.


Active RFID Tag

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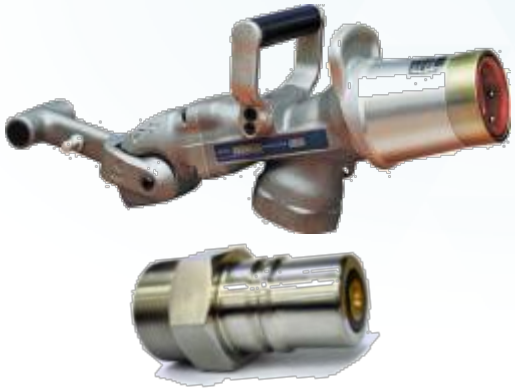
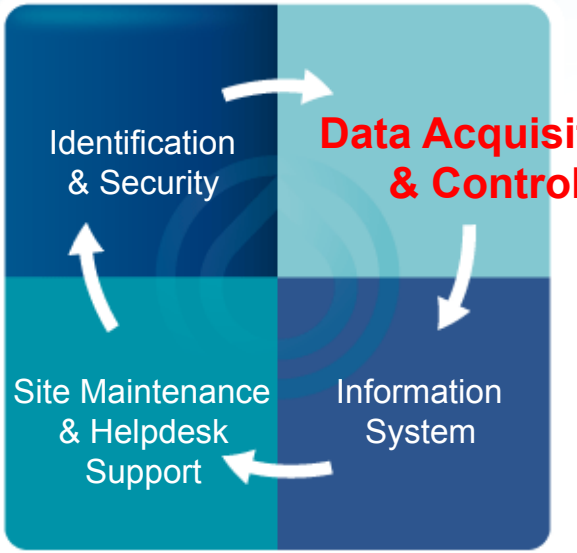
FuelTrack Overview - 4 Key Components → Reliable FMS





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Measurement – Meters, Calibration & Reconciliation

Effective Reconciliation Begins With Accurate Metering

Tank Level Monitoring

- Each tank fitted with a level and temperature device
- Software used to retrieve product level and temperature, carrying out temperature compensation
- Fully integrated with FuelTrack
- Reconciliation reporting
- Historical reporting

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Reliable Data Capture – Depot Unit

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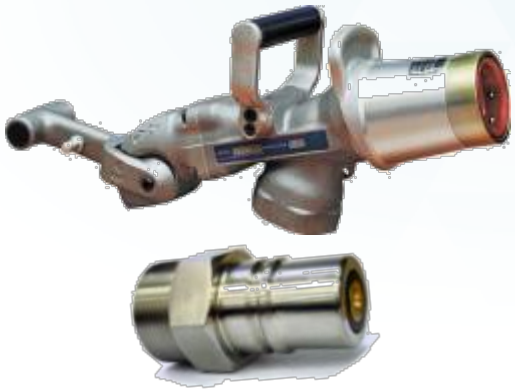

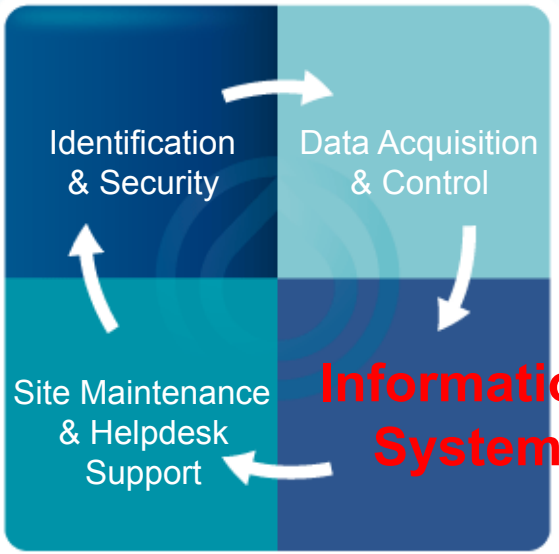

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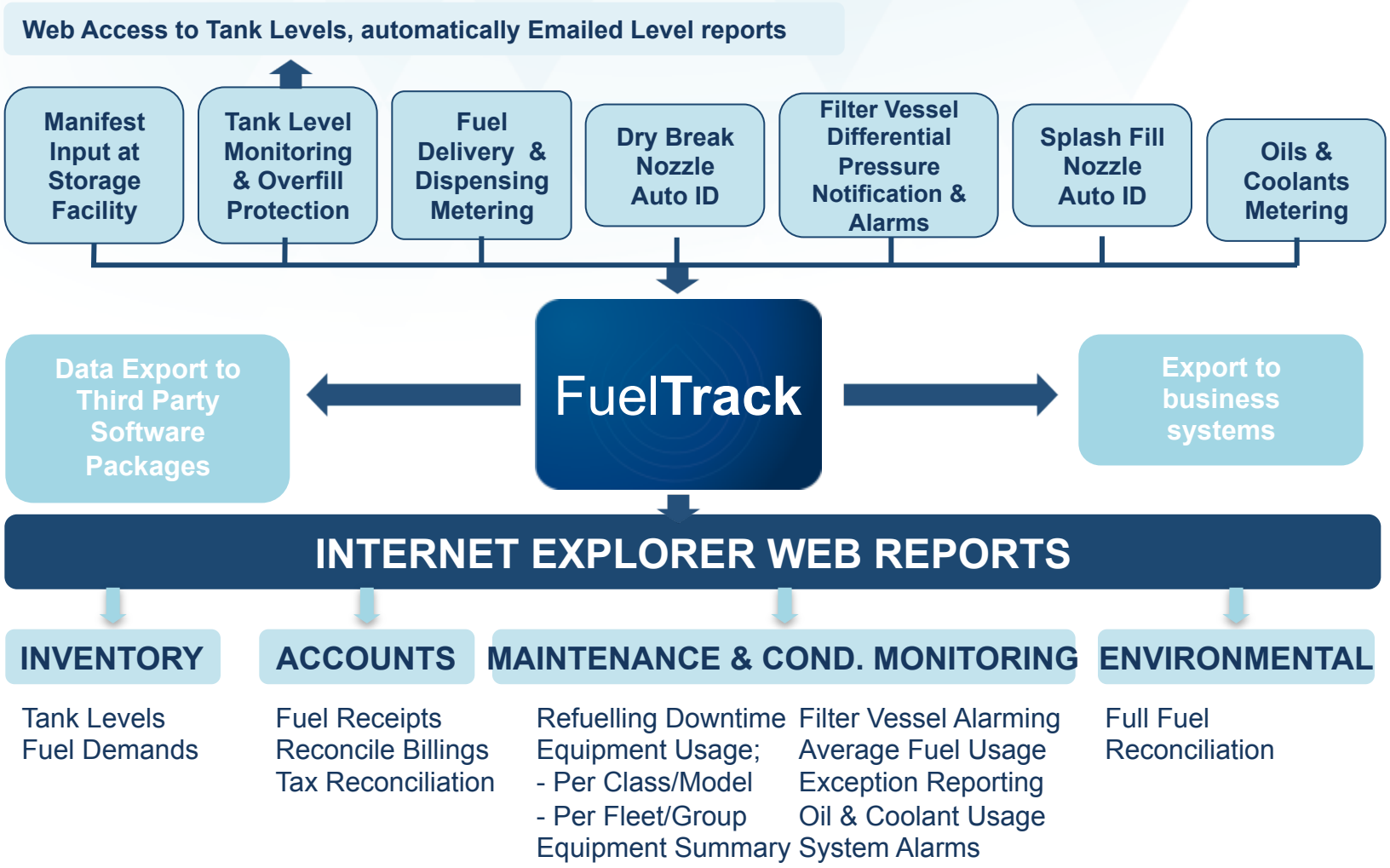
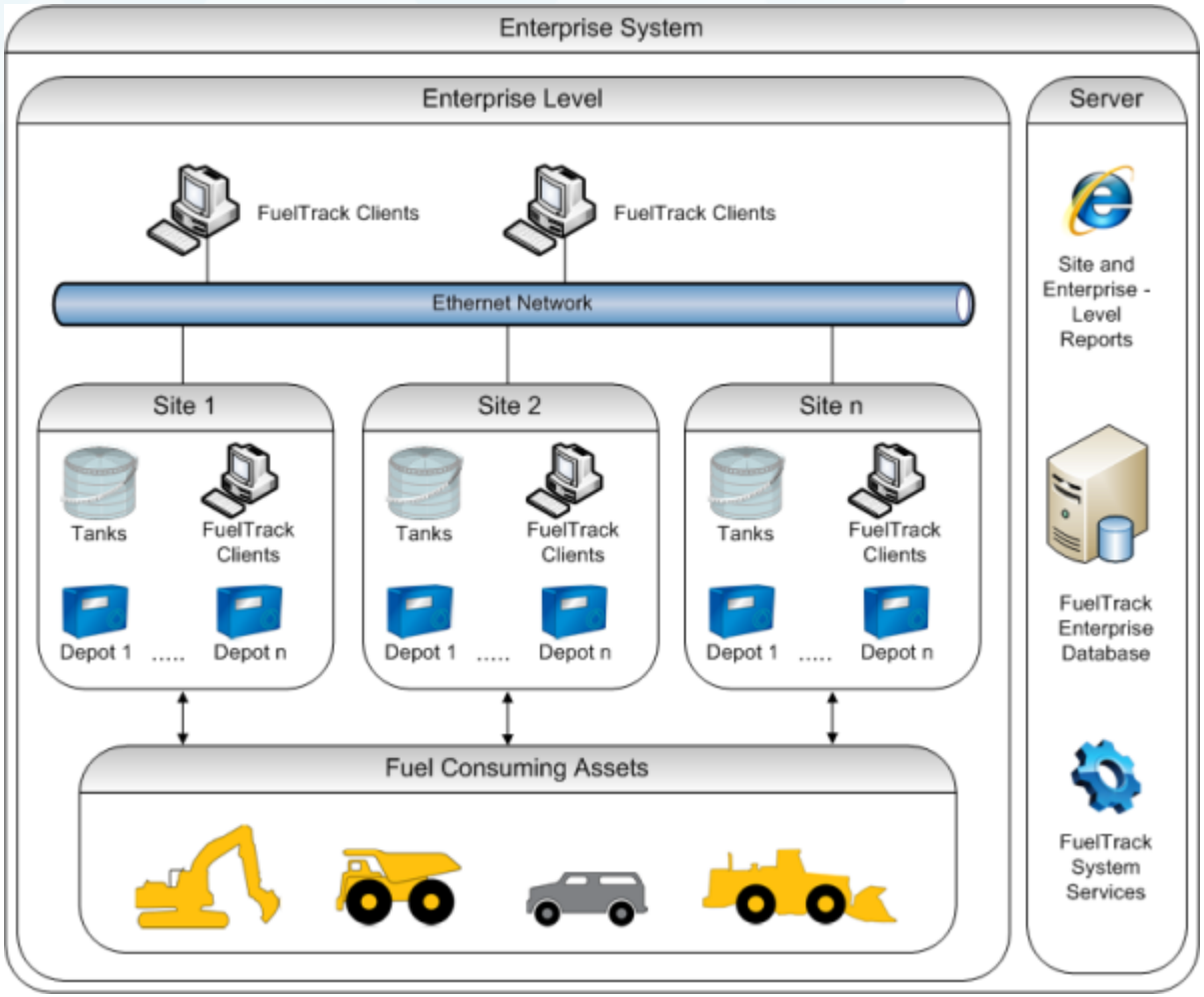
FuelTrack Software Overview



FuelTrack Enterprise System Overview

- Centralised database
- Centralised reports
- Centralised services carrying out system functions
- Site and Enterprise-level reporting
- Numerous software client installations concurrently accessing data



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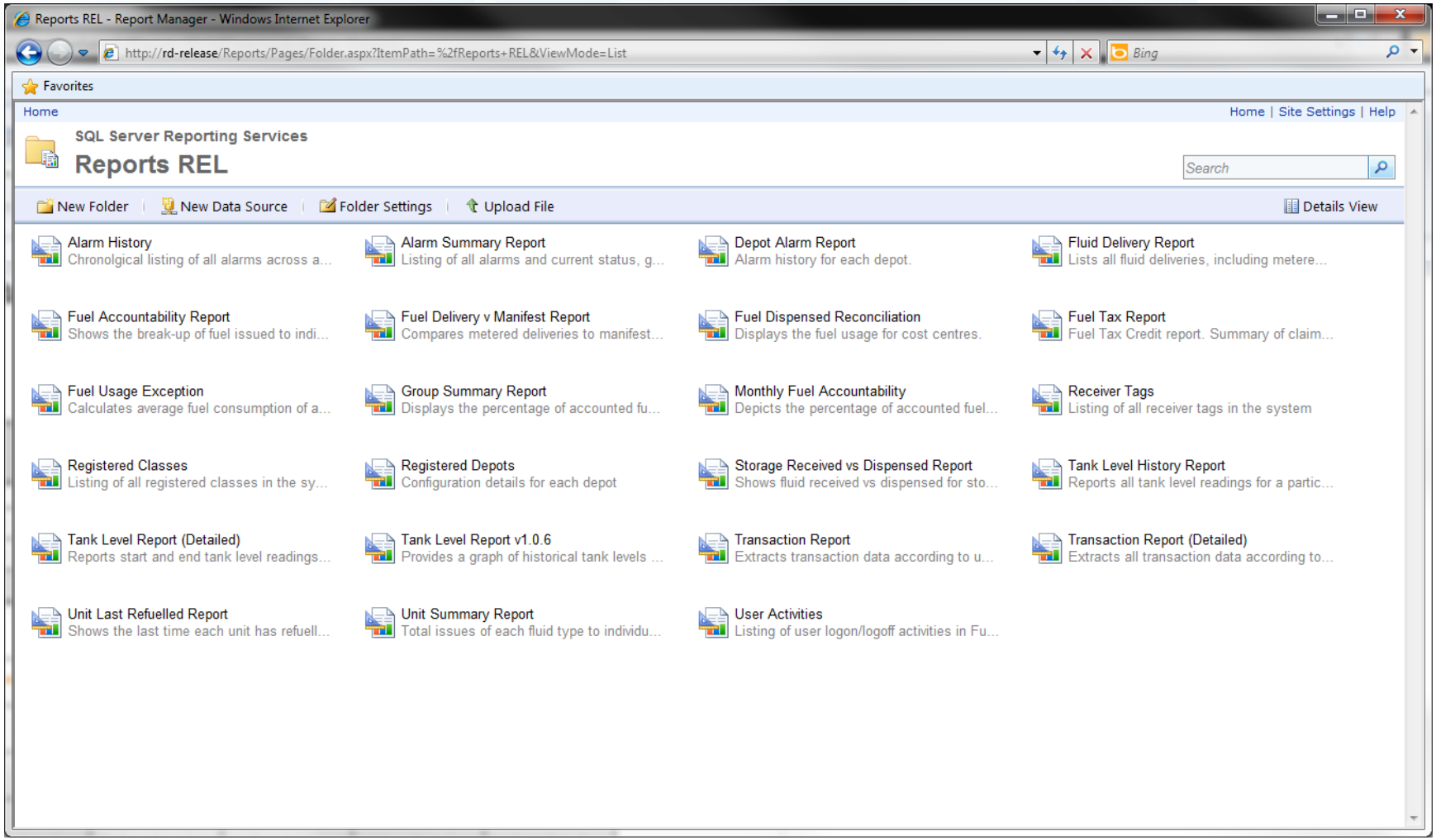
FuelTrack Web Reports



FuelTrack – Vehicle Transaction Report

Transaction Report

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Site: Newcastle East

For Period: 1/06/2008 12:00:00 AM To : 7/08/2008 12:00:00 AM

Date/Time	Unit	Fleet	Class	Fuel Type	Volume [Litres]	Duration [min]	Depot	Nozzle	Cost Centre	Type	Person ID
1/06/2008 12:02:00 AM	ADPWST	POWERSTATION	POWERSTATION	Diesel	181.95	4	ADPWST	1	NONE	OUT	Auto
1/06/2008 12:05:00 AM	047KFG	LIGHTVEHICLE	TOY HILUX	Diesel	43.36	3	DEPOT1	1	NONE	OUT	EAST WEIPA
1/06/2008 12:23:00 AM	CALCIN	NONE	CLASS	IFO	7.30	1	CALCIN	2	NONE	OUT	Auto
1/06/2008 12:28:00 AM	47417	SERVICETRUCK	MACK CHR	Diesel	3,805.23	21	DEPOT3	3	NONE	OUT	Auto
1/06/2008 12:50:00 AM	ADPWST	POWERSTATION	POWERSTATION	Diesel	1,010.79	12	ADPWST	1	NONE	OUT	Auto
1/06/2008 1:01:00 AM	ADPWST	POWERSTATION	POWERSTATION	Diesel	838.85	10	ADPWST	1	NONE	OUT	Auto
1/06/2008 1:31:00 AM	ADPWST	POWERSTATION	POWERSTATION	Diesel	184.27	4	ADPWST	1	NONE	OUT	Auto
1/06/2008 1:35:00 AM	43606	LOADER	CAT992G	Diesel	1,266.50	10	DEPOT1	2	NONE	OUT	Auto
1/06/2008 3:41:00 AM	46115	GRADER	CAT16H	Diesel	131.65	3	DEPOT1	2	NONE	OUT	Auto
1/06/2008 3:44:00 AM	43709	LOADER	CAT 966G	Diesel	208.96	4	CALCIN	1	NONE	OUT	Auto
1/06/2008 3:46:00 AM	47417	SERVICETRUCK	MACK CHR	Diesel	1,723.08	12	DEPOT1	2	NONE	OUT	Auto
1/06/2008 3:59:00 AM	404HWG	LIGHTVEHICLE	TOY HILUX	Diesel	94.57	4	DEPOT1	1	NONE	OUT	NAKURAGA
1/06/2008 4:00:00 AM	ADPWST	POWERSTATION	POWERSTATION	Diesel	1,001.54	12	ADPWST	1	NONE	OUT	Auto
1/06/2008 4:11:00 AM	090GUE	LIGHTVEHICLE	LAND CRUISER	Diesel	20.64	2	DEPOT3	2	NONE	OUT	Auto
1/06/2008 4:13:00 AM	044KFG	LIGHTVEHICLE	TOY HILUX	Diesel	15.77	2	DEPOT1	1	NONE	OUT	Auto

Report ID: B-0110 Version : 1.3 1 of 324 Date/Time Generated: 9/10/2008 2:46:06 PM

FuelTrack – Vehicle Usage Exception Report

Fuel Usage Exception

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Banlaw Mine

Site: Newcastle East For Period: 1/01/2008 To 1/07/2008

All Units For Class:

Unit	*Unit Average[Litres/Day]*	*Difference to Class Avg [%]*
42907	813.84	-46.83 %
42901	1,090.87	-28.72 %
42913	1,283.84	-16.12 %
42912	1,334.89	-12.78 %
42919	1,409.22	-7.92 %
42915	1,422.19	-7.08 %
42914	1,428.44	-6.67 %
42920	1,514.90	-1.02 %
42921	1,515.33	-0.99 %
42916	1,516.14	-0.94 %
42918	1,519.14	-0.74 %
42924	1,561.97	2.06 %
42909	1,576.14	2.98 %
42917	1,606.49	4.97 %
42903	1,665.60	8.83 %
42922	1,673.68	9.36 %
42904	1,689.46	10.39 %
42905	1,692.09	10.56 %
42923	1,696.98	10.88 %
42906	1,711.51	11.83 %
42925	1,717.88	12.24 %
42902	1,743.40	13.91 %
42911	1,759.15	14.94 %
42910	1,857.66	21.38 %

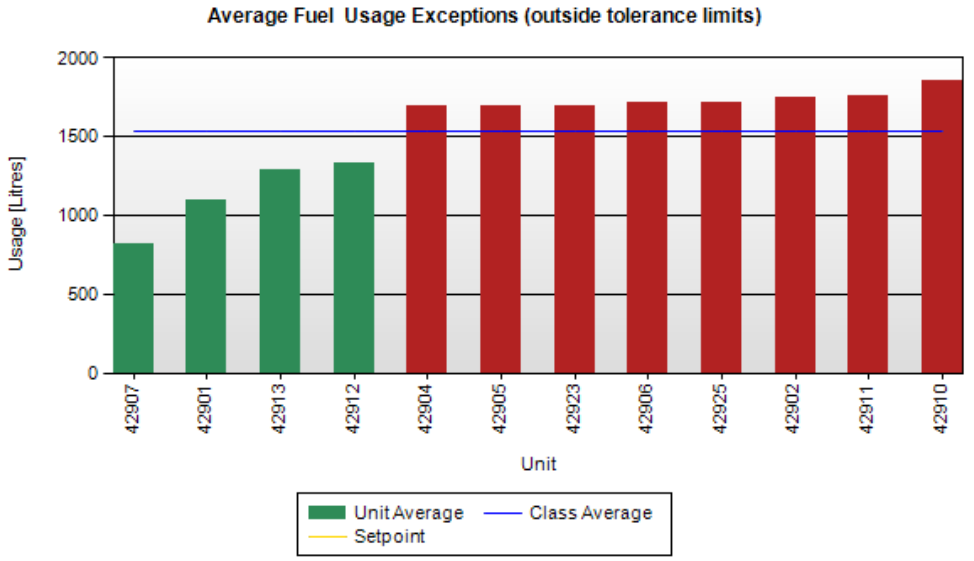
Average For Class [Litres/Day] : **1,530.49**

Units Above Setpoint Limit:

Unit	Unit Average [Litres/Day]	Difference to Class Avg[%]	Difference to Setpoint[%]
42910	1,857.66	21.38 %	21.42 %

Report ID: B-0104 Version 1.1 1 of 2 Date/Time Generated: 9/10/2008 3:12:17 PM

BANLAW FuelTrack



Calculates average fuel consumption of a unit and compares this to the specified tolerance level for equipment class/type/ group

FuelTrack – LevelTrack TLM Report

Tank Level Report (Detailed)

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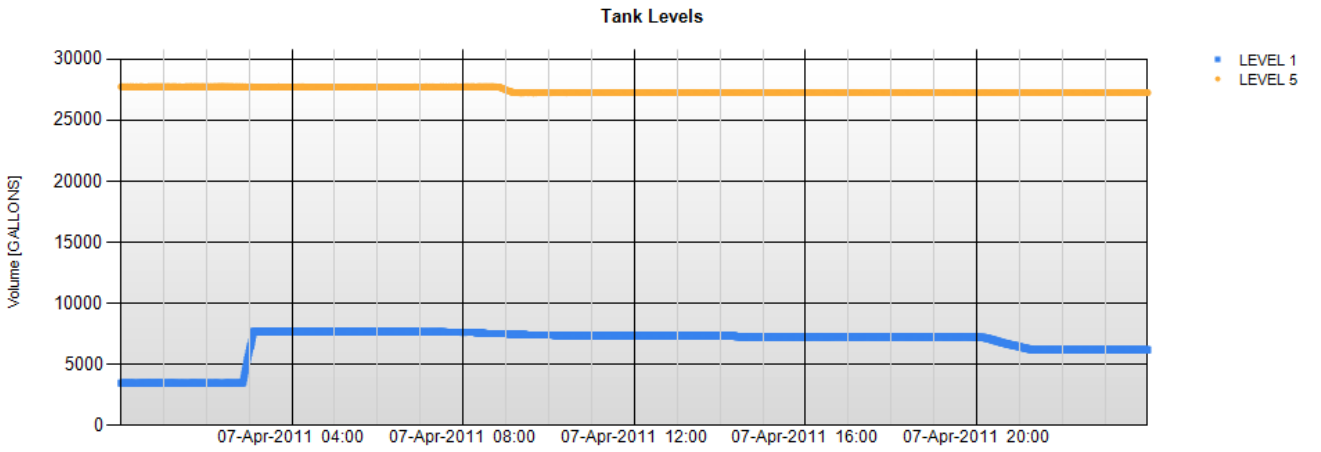
For Period: 07-Apr-2011 00:00 To: 08-Apr-2011 00:00

Device	Tank Capacity	Start Date	Start Raw Volume	Start Temp	Start Corrected Volume	End Date	End Raw Volume	End Temp	End Corrected Volume
Site: Banlaw Demo Site									
LEVEL 1	10,000.00	07-Apr-2011 00:00	3,476.91	66.46	**3,464.80**	07-Apr-2011 23:59	6,191.94	59.76	**6,189.75**
LEVEL 5	40,000.00	07-Apr-2011 00:00	27,551.75	45.59	**27,724.24**	07-Apr-2011 23:59	27,084.92	46.39	**27,244.47**
TOTALS	**50,000.00**				**31,189.04**				**33,434.22**



Report ID: B-0119B Version: 2.00 1 of 1 Date/Time Generated: 11-Jul-2011 16:14

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FuelTrack – Fuel Delivery vs. Manifest Report

Fuel Delivery v Manifest Report

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Site:

For Period: 8/10/2009 12:00 AM To: 8/11/2009 12:00 AM

Storage	Date	Entry ID	Manifest Number	Invoice Quantity	Metered Quantity
Code80	8/10/2009 12:16:00 AM				8,958.80
Code80	8/10/2009 12:16:00 AM	Sinclair	67945	8,958.00	
Code80	8/10/2009 4:21:00 AM	Sinclair	67963	8,967.00	
Code80	8/10/2009 4:22:00 AM				8,921.10
Code80	8/10/2009 7:44:00 AM				8,986.50
Code80	8/10/2009 7:44:00 AM	Sinclair	67979	8,967.00	
Code80	8/10/2009 8:16:00 AM	Sinclair	67987	7,979.00	
Code80	8/10/2009 8:21:00 AM				7,943.10
Code80	8/10/2009 11:35:00 AM	Sinclair	68032	7,971.00	
Code80	8/10/2009 11:53:00 AM				7,957.60
Code80	8/10/2009 3:13:00 PM	Sinclair	68069	7,975.00	
Code80	8/10/2009 3:16:00 PM				7,942.70
Code80	8/10/2009 5:07:00 PM				7,092.70
Code80	8/10/2009 5:07:00 PM	Sinclair	68079	7,161.00	
Code80	8/10/2009 8:24:00 PM				7,902.00
Code80	8/10/2009 8:24:00 PM	Sinclair	68096	7,952.00	
Code80	8/10/2009 11:24:00 PM				7,933.80
Code80	8/10/2009 11:24:00 PM	Sinclair	68100	7,959.00	
			Total [Gallons]:	73,889.00	73,638.30
				Variance %:	-0.34 %

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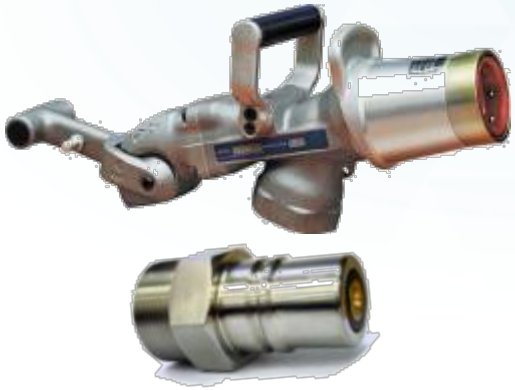
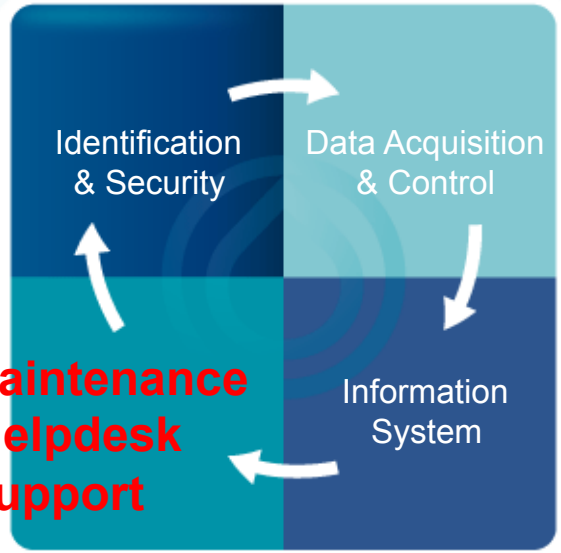
FuelTrack Overview - 4 Key Components → Reliable FMS





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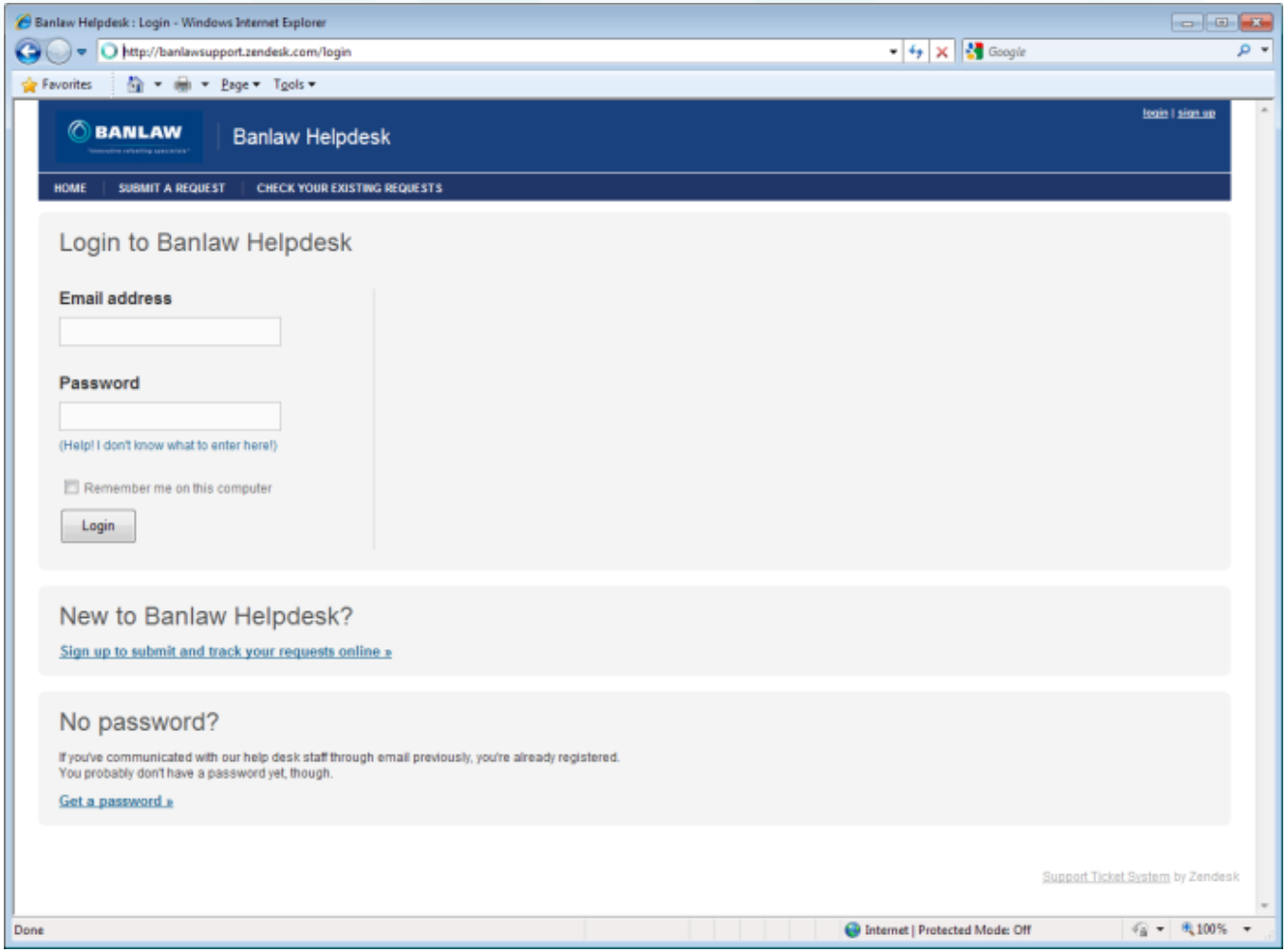
Support - 24/7 Helpdesk – Phone & Online



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Typical FuelTrack Site Maintenance Inspections

Fuel Truck Inspection

Job Description: Fuel Truck Inspection Report
Work Group: Banlaw Contractor Co-ordinator: Alan Messenger

Date Raised	Date Commenced	Priority	Work order type	Maintenance Type
			Scheduled	Elect / Mech
Location	Std Job	Labour Type	Task Duration	No of tasks
		Technician		005

Defects Found:

Parts Required:

Date Completed	Completed By	Rio Tinto Representative	Signed

Fortnightly Inspections

Insert the appropriate code for each task: A=Completed, no problems found B=Completed, problems corrected provide details C=Completed, problems noted, further repairs required	Code A, B, C	Comments
High Flow Pump 1		
Check all pipe work for leaks and corrosion		
Check supporting brackets and bolt conditions		
Check strainer for leaks		
Check pump for leaks		
Check pump motor oil level		
Check air eliminator for leaks		
Check filter condition indicator(s) and for leaks		
Check E/Stop(s) operation and condition		
Check operation of the PTO start/stop station		
Check and test isolation point(s)		
Check meter for leaks		
Check meter operation		
Check hose for leaks and condition		
Check hose reel for leaks and retract operation		
Check Nozzle for leaks and condition		
Check swivel for leaks and condition		
Visually inspect bund level		
Visually inspect control enclosures		
Clean dust and water from control enclosures		
Test operation of FuelTrack anti ID system		
Test and inspect electronic activations		
Test all keypad operations		

Tank		
Visually inspect tank		
Check valve operation		
Check pipe work		
Check flange work and bolt conditions		
Check drain cock		
Check Receiver(s), test anti ID and record tag name(s)		
Check receiver cap(s) and anchor points		
Check desiccant breathers		

Monthly Inspection - In conjunction with the above

Insert the appropriate code for each task: A=Completed, no problems found B=Completed, problems corrected provide details C=Completed, problems noted, further repairs required	Code A, B, C	Comments
General Vehicle Inspection		
Check bund for water or diesel drain and clean		
Check bunding walls for cracks and defects		
Check nozzle bracket		
Check signage visible and clear		
Check emergency eye wash bottle compliance and condition		
Clean from debris, rags and any other rubbish		

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Unloading – Best Practice

Delivery
Driver Training
Spill control
Written Discharge instructions

Safety First
- ✓ Safety Signage
- ✓ Emergency Spill Kits
- ✓ Emergency Stops
- ✓ Unloading Procedures
- ✓ Clean Storage Bund Areas
- ✓ Incident Report

Tank Level Monitoring
Level Gauges
Temperature correction

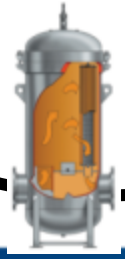
Storage Tanks
Compliant bunding
Water management
Breathers and Vents
Overfill protection

FMS
Delivery Manifest
Entry
Tank Level Display

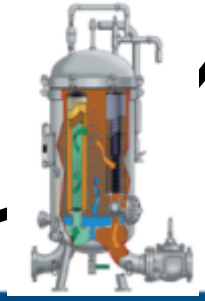
FuelTrack

Measurement
Meter sizing to suit flowrate range Temperature correction

Bulk Air Elimination



Filtration
Pre-Filter



Water Separation

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Dispensing – Best Practice

Tank Level Monitoring
Level Gauges
Temperature correction

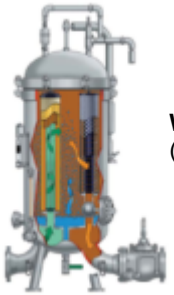
Dispensing
Loading arm (OH&S)
Break away valve
Drive away Deterrent
Nozzle holster

Dispensing Pump

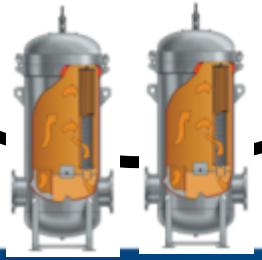
FuelTrack

FMS
Vehicle Identification
Alarming
Dispensing management

Measurement
Air Eliminator
Meter sizing to flowrate range
Temperature correction



Water Separation
(if required)



Filtration
Pre-Filter &
Polishing Filter

Safety First
- ✓ User Training
- ✓ Safety Signage
- ✓ Emergency Spill Kits
- ✓ Emergency Stops
- ✓ Dispensing Procedures
- ✓ Incident Reporting

Fuel Cleanliness
- ✓ Use of Receiver Caps
- ✓ Wiping of Receivers prior to refuelling
- ✓ Cleaning of nozzles
- ✓ Use of nozzle holsters

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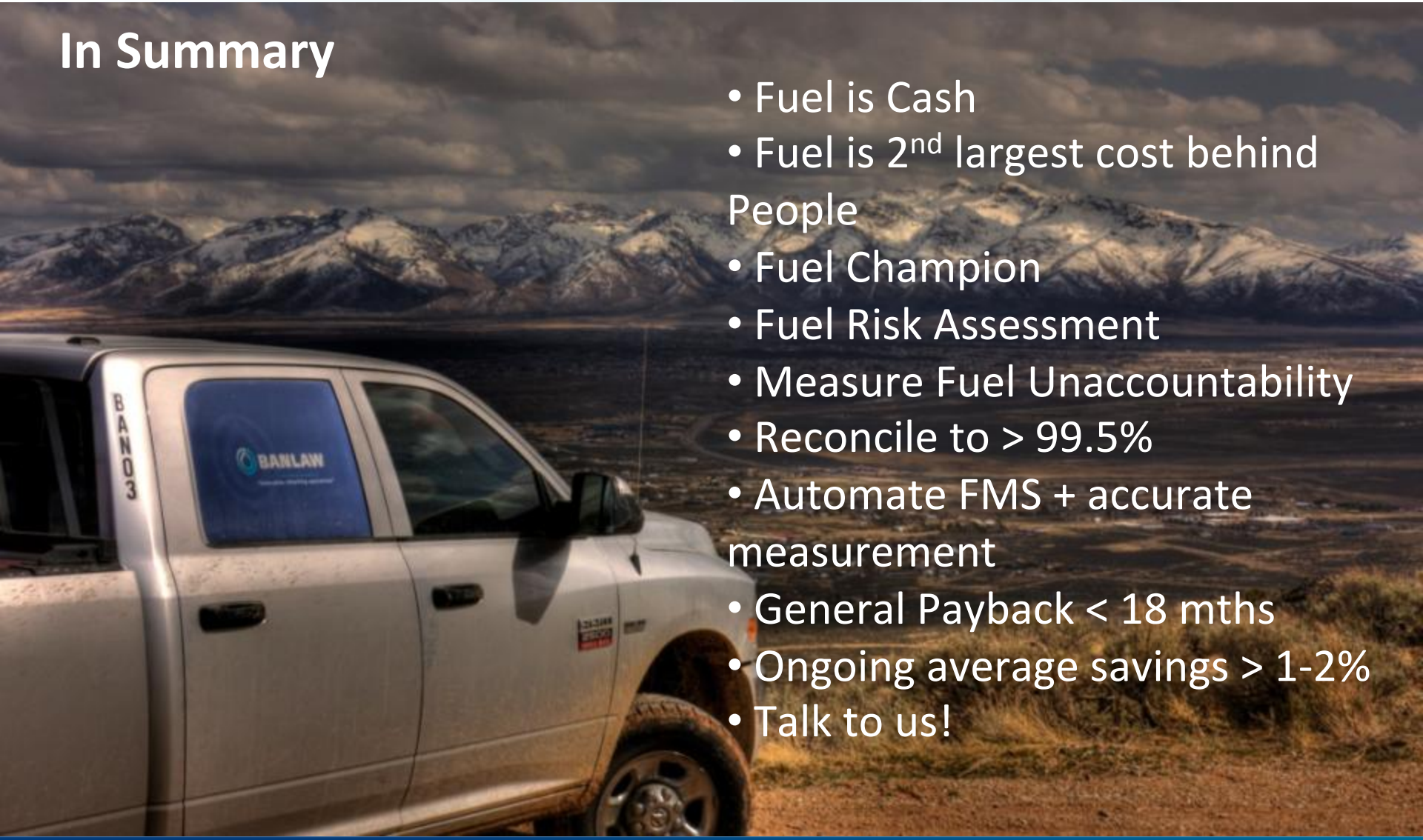
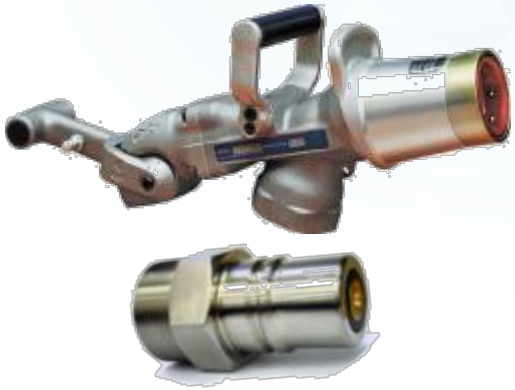
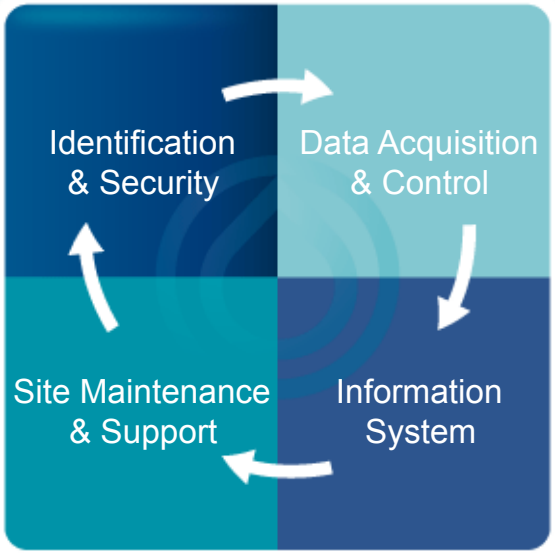
In Summary



- Fuel is Cash
- Fuel is 2nd largest cost behind People
- Fuel Champion
- Fuel Risk Assessment
- Measure Fuel Unaccountability
- Reconcile to > 99.5%
- Automate FMS + accurate measurement
- General Payback < 18 mths
- Ongoing average savings > 1-2%
- Talk to us!

QUESTIONS




Identification & Security
Data Acquisition & Control
Site Maintenance & Support
Information System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