

Industrial & Mining Fuel Management

Integrated fuel and fleet management



- ✓ OEM integrated
- ✓ Managed or self-service reporting
- ✓ Flexible, accurate and customisable reporting



Smart. Simple. Secure.

Integrated fuel & fleet management.

Gilbarco Veeder-Root's Industrial and Mining Fuel Management Solutions provide expanded, end-to-end coverage of fuel operations at industrial or mining sites, from the tank, dispenser, bowser or tanker truck to the head office. Our tailored solutions provides fleet and site managers with the power and flexibility to manage their sites, control distribution, monitor fuel levels and report accurately at multiple sites and fleets from one central point.

Any site with its own operated fuel station requires thorough management capabilities. Gilbarco Veeder-Root offers complete site automation solutions, enabling the management of fuel inventory at multiple sites and providing critical insight and alerts.



Wetstock Management

- Delivery Control: Automate the delivery process, reduce human error and validate Oil Company billing.
- Trade Control: Introduce a single point of reconciliation for all fuel dispensed on-site.
- Tank Control: Monitor tank levels in near-real time, with automated alarm management.



Site Management

- Fixed Site Control: Introduce tight control over site dispensing and reduce unauthorised refuelling.
- Refueling Control: Ensure that authorised assets receive fuel to track cost allocation & fuel efficiency.
- Bowser and Mobile Bowser Control: Apply standard processes across fixed sites and mobile bowzers.



Support & Maintenance

Vendor Managed Inventory

- Ordering and maintaining tank levels.
- Delivery receipting, verification and escort.
- Bulk storage facility reconciliation.

Facilities Service and Maintenance

- Asset Management (Asset identification, Maintenance of asset database).
- Maintenance Services.



Automatic Vehicle Location & Driver Management

- Fleet Management: Track and monitor your fleet with second-by-second, high definition data in near real-time.
- Mobile Communications and Navigation: Send messages, dispatch the nearest driver to a job or apply warnings to alert drivers when over speeding.
- Driver Behaviour Monitoring: Ensure safe operating environments with scorecard-based monitoring.

Take control of your wetstock

For Industrial, Mining and Bulk Fuellers



Record fuel custody transfers with the EMR4 Electronic Meter Register

The EMR4 is designed to be installed or integrated with any meter as a custody transfer approved electronic meter register with the right certifications for both stationary and mobile bulk fueling applications.

The EMR4 system is comprised of a Register Head (display head), and an Interconnect Box (IB Box), which can be used with many different accessories. This gives users the flexibility to configure a system that meets their specific needs on a fuel truck, tank skid, loading rack, bulk plant, or anywhere else fuel is dispensed on a bulk meter.



Measure inventory levels in tall tanks using the Mag-Flex Probe

The Mag-FLEX is specifically designed for monitoring aboveground storage tanks up to 50 feet tall. The Mag-FLEX monitoring solution can be paired with any Veeder-Root automatic tank gauge to create a powerful, affordable inventory management system backed by the support network and reliability of Veeder-Root.

This aboveground solution delivers accurate reconciliation of your most expensive on-site assets without you having to scale formidable heights to determine inventory levels.



Manage & record fuel inventories with Veeder-Root ATG's

The powerful Veeder-Root Automatic tank monitoring systems are perfect solutions for inventory visibility. View, configure, and control using the Graphic User Interface on the tank gauge or from remote locations through dataFLEX 360, providing a single portal for managing and reconciling transactions and inventory of your industrial or mining operation.

Wetstock Management

Explained.

Delivery Control

Automate the delivery process to reduce human error and validate Oil Company billing

Automation of the delivery inlet with a flowmeter, actuator valve and our proprietary EMR4 (electronic meter register).

The EMR4 is an advanced meter register that provides the capability of recording volumes with temperature compensation as well as creating individual delivery tickets with delivery ticket number, date and time stamp as well as temperature compensated volumes.

This information is collected electronically and is presented to the user within 15 minutes of the delivery being concluded. The electronic record can also be integrated with any financial system to allow for accurate reconciliation of Oil Company billing.

- EMR4, flowmeter & actuator valve installed
- EMR4 controls refueling process
- Start/Stop button opens/closes actuator valve
- Temperature compensation

Tank Control

Monitor tank levels in near real-time, with automated alarm management.

Installation of our Gilbarco Veeder-Root automatic tank gauges to record levels in the tank as well as provide for a full range of alarms, including water levels, low product alarms and overfill protection alarms.

Gilbarco Veeder-Root's powerful Automatic tank gauge monitoring system is the perfect solution for wetstock inventory visibility.

- Veeder-Root Automatic Tank Gauge records product and water levels
- Multiple high level, low level and water level alarms available
- On device screen can be used to read information on site
- Electronic communication to iNtegrator allows active data
- Eliminates risk of free water contamination
- Automated alarms for low or high levels
- Automated alarms for delivery stock levels
- Hourly updates of tank levels via iNtegrator

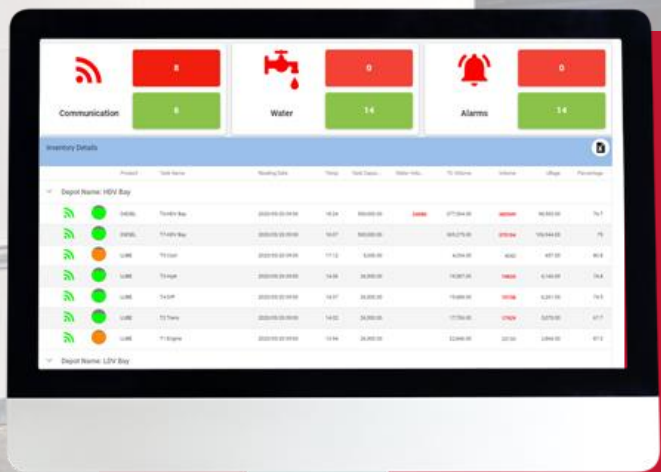
Trade Control

Introduce a single point of reconciliation for all fuel dispensed on-site

Automation of the trade outlet with a flowmeter and our proprietary EMR4 (electronic meter register). If dispensing is via electronic curbside pumps only, then these will perform the function of the trade meter as these can be read electronically.

The EMR4 is an advanced meter register that provides the capability of recording volumes with temperature compensation. This information is collected electronically and is presented to the user within 15 minutes of the delivery being concluded. This allows for automated shift closes with automated reconciliations.

- EMR4 as a trade can be read electronically
- Totalizer mode used for automated data
- Used as point of sale in consignment out model
- Temperature compensation
- Single point of reference for automated reconciliation



Real time, centralised data



DataFLEX360 is a web based, cloud hosted reporting platform, specifically developed for the commercial, industrial and mining industries, using an open architecture model to seamlessly integrate with OEM telematics data Transactions are delivered to dataFLX360 within 15 minutes of the actual event taking place on-site. The GMS Connect platform has also been developed.

Site Refueling Control

Simplifying your site operation, our automation solution controls the dispensing of product from either a fixed site or a mobile tanker truck., with all recorded electronically at the time of refueling and transferred to dataFLEX360.

- ✓ **Fixed Site Control:** Introduce tight control over site dispensing and reduce unauthorised refuelling.
- ✓ **Mobile Bowser Control:** Apply standard processes across fixed sites and mobile bowzers using the same technology
- ✓ **Site Refuelling Control:** Ensure that only authorised assets receive fuel and track cost allocation as well as fuel efficiency



Tight control. Zero unauthorised refueling.



Ensure that only authorised assets receive fuel and track cost allocation

RFID refueling technology provides peace of mind that fuel is dispensed only into authorised assets.

Apart from preventing unauthorised refuelling, the wireless connectivity allows for rapid deployment and the addition of the AccuTrip+ provides for GPS Odometer collection and simplified maintenance.



Introduce tight control over site dispensing and reduce unauthorised refueling

The eNhance Controller has been developed specifically for harsh environments such as mining environments where robustness is essential. The eNhance Controller offers complete automation with flexible fuelling authorisation and easily connects to existing pumps and meters in site.

Apart from its robust design which improves solution uptime, the eNhance offers wireless connectivity and eliminates unauthorised refuelling as only active, authorised assets can receive fuel. The same eNhance Controller is not only suitable for site applications, but can also be used in Mobile Bowzers.

Site Management

Explained.

Fixed Site Control

Introduce tight control over site dispensing and reduce unauthorised refuelling.

The eNhanse Controller has been specifically developed for Mining operations and controls up to 10 mechanical and 10 electronic pumps. Boasts, intelligent power management, integrated asset RFID recognition and wireless communication.

- Robust controller improves solution up-time
- Connects to existing pumps and meters on site
- Wireless reduces implementation time and cost (trenching)
- Solution handles power outages easily & ensures data is not lost
- Eliminates unauthorised refuelling as only active RFID assets can receive fuel
- Facilitates unattended refuelling

Mobile Bowser Control

Apply standard processes across fixed sites and mobile bowzers using the same technology

Our Mobile Bowser solution utilises the same eNhanse controller, developed specifically for Mining operations, and also used in Mobile Bowser applications. With 24VDC conversion and voltage protection, the solution provides for integrated tank levelling, controlling up to 10 mechanical pumps.

- Same technology on fixed site and mobile bowser simplifies operations
- Solution handles power outages and voltage spikes easily & ensures data is not lost
- Eliminates unauthorised refuelling as only active RFID assets can receive fuel
- Facilitates unattended refuelling
- Automated tank reconciliation using Tank Levelling system

Site Refuelling Control

Ensure only authorised assets receive fuel, track cost allocation as well as fuel efficiency

With scalable and robust technology options for basic to advanced functionality, RFID technology is installed on all assets providing for integrated odometer or hour readings. Easily capture GPS Odometer reading for LDV fleets when paired with the AccuTrip+, or pair with advanced AVL fleet devices for full functionality

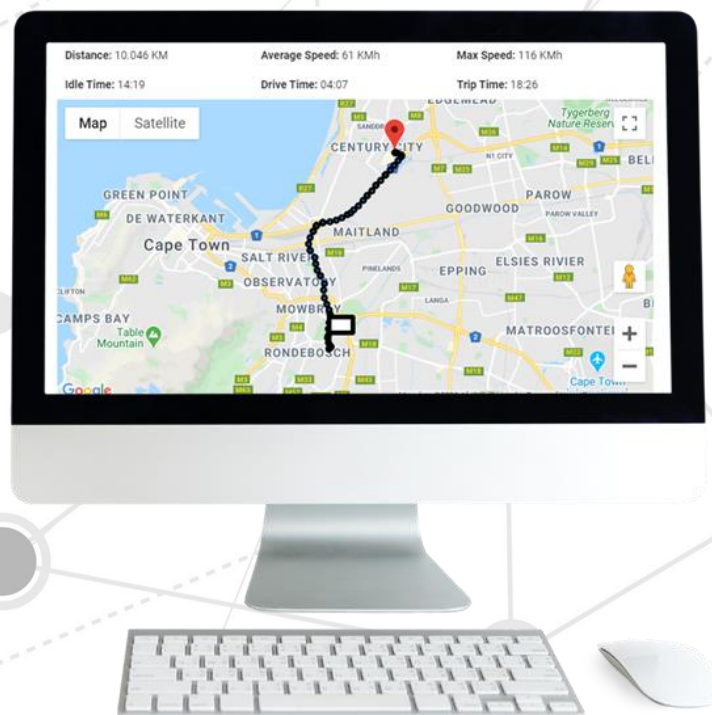
- Unauthorised refuelling prevented
- Electronic recording of data, no human intervention ensures quality of data
- Expand into the advanced functionality as required by time or group of assets
- Unattended refuelling reduces operational costs

A single view across all your sites and assets.



Integrating fuel, fleet, production and other external data to create a "single pane of glass" view across your industrial or mining operation, dataFLEX360 provides for proactive corrective measures to reduce complex reporting environments with user definable dashboards that allow for ease of use.

The core foundation of dataFLEX360 is reconciliation, ensuring accurate wetstock, site and fleet operational data.



Solution Components

The components of the Industrial and Mining Fuel Management Solution are as follows:



Electronic Meter Register

- Robust field device that provides transactional information on deliveries and product movement
- Temperature compensation on volumes
- Delivery and totalizer modes allows for configurable operations
- Non-volatile memory stores 200 transactions
- All-weather backlit, opens and closes actuator valve



Flowmeter

- EMR4 controls the Actuator valve and electronically records volume flowing through the flow meter.
- No human intervention required
- Records every delivery transaction by recording opening totalizer reading, transaction volume and closing meter totalizer reading.
- Records temperature compensated deliveries
- Connects to controller enabling tank variance reporting.



Actuator Valve

- Actuator Valve converts energy into torque which is linked to the EMR4.
- Once the start button on the EMR4 is pressed a signal is passed to the Actuator to open.
- After the delivery is finished the Actuator closes again.
- The result is that a very accurate measurement of what passes through the flow meter can be obtained.



Automatic Tank Gauge

- TLS4, TLS4B or TLS450 depending on number of probes required provides electronic snap shot of tank volumes and quality
- High quality, high reliability for multiple tanks and products
- Alarm facility – water content, low product, overfills
- Custom alarms – pre-programmed alarm alerts provide scenario-specific information to predetermined individuals to increase efficiency



AccuTrip+

- Independent GPS odometer reading and vibration activated hour meter
- Independent 2 wire installation ensure the unit can be installed on any vehicle or asset without voiding OEM warranties
- Full trip logging with breadcrumb reporting, recording active and idle time
- Over-the-air (OTA) meter reset capability
- Accurate vehicle readings independent of vehicle factors



eNhance Controller

- Industrial IP66 strength controller built for rugged environment
- Wireless connectivity for rapid deployment
- Full remote diagnostics control
- Mechanical & Electronic pumps
- Independent of sophisticated LAN architecture
- Preselect lube volumes
- Low bandwidth data packets UPS on-board



Gateway Terminal

- Secure wireless network for the Nozzle Reader & RFID vehicle units
- Uses 802.15.4 (Zigbee) over 2.4GHz frequency
- Full station coverage, from single unit to mesh architecture
- Mesh technology providing high availability, reliability in all conditions
- Remote maintenance and firmware updates.



Nozzle Reader

- Self contained wireless compact transponder with Innovative 'grip' mechanism
- Battery life 2-3 years, field replaceable
- LED indication, e
- Extremely durable and reliable
- Effective removal protection / Tamper detect
- Fits any nozzle type, holster and vehicle inlets



RFID Vehicle Units

- An RFID device installed near the fuel inlet
- Includes secure payment data
- Removal protection mechanism
- Passive device – no power needed
- 'Ring' or 'Cube' form factor
- Easy to install, fits any vehicle



Passive Tags

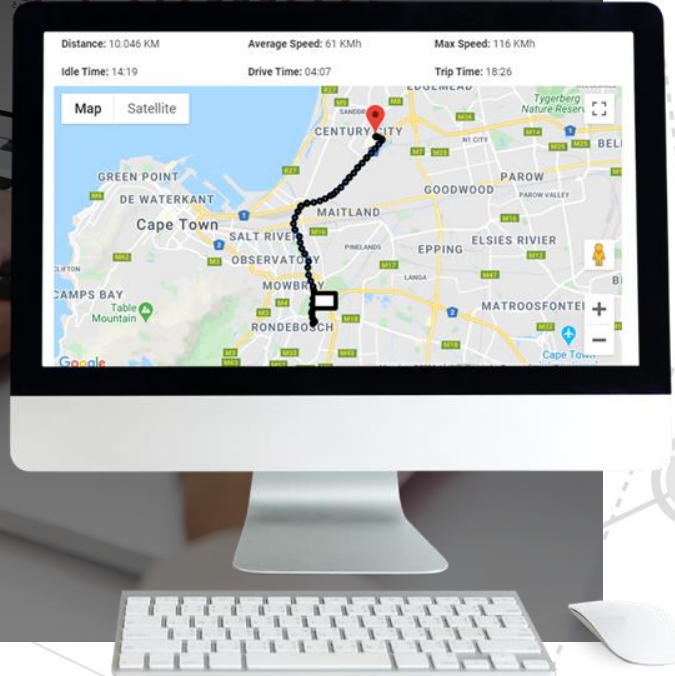
- Limited control
- Reader sends signal to the tag using an antenna.
- Tag receives this information and resends this information along with the information in its memory.
- Reader receives this signal and transmits to the processor for further processing.

dataFLEX360

Actionable insight.

Integrated fuel management reporting.

Accurate, reliable, relevant and near real-time reporting is a critical success factor in delivering true value to our customers. dataFLEX360 is Gilbarco Veeder-Root's integrated fuel and fleet reporting platform, providing easy to use reporting dashboards for all your commercial and industrial fuel management reporting needs.



Why dataFLEX360 is right for you

dataFLEX360 is a web based, cloud hosted reporting platform. The benefit of this for our customers is that there is no significant investment in IT infrastructure at each site to collect transactions and generate reports.

All fuel transactions are delivered to the **dataFLEX360** platform through our on-site eNance controllers in near real-time, with transactions appearing on the dataFLEX360 dashboards within 15 minutes of the actual event taking place on-site. The **dataFLEX360** platform has also been developed using an open architecture model.

dataFLEX360 allows for seamless integration with OEM telematics data being generated by the HME category of assets, connecting to OEM platforms and extracting relevant fleet information to integrate into reporting.

dataFLEX360 creates a single view of information across your commercial and industrial fuel and fleet operations.

Who should use dataFLEX360?



Mining operations



Customers using fuel at home based depots



Oil Companies selling fuel



Facilities management companies selling fuel

Fleet Telematics

Increase productivity, ensure proper equipment utilisation and reduce costs with our advanced telematic technology.

Advanced equipment management.

From efficiently achieving daily extraction targets to managing equipment utilisation, we serve the aggregate mining, logistics and quarrying industries with a range of telematics solutions.

Managing production demands, costs and a range of on-road and off-road assets becomes easier with real-time data. Get the advantage of GPS, maintenance scheduling, and production data analytics solutions.

The reliability, scalability and vertical applicability of the telematics hardware, complemented by strong yet easy-to-use software within dataFLEX360, makes it a formidable tool-set for any business.



Single solution that meets all fuel and fleet requirements.



Easy to use interface combines relevant data for ease of reference.



Compare data from various systems to determine trends and highlight exceptions.



Track and monitor your LDV'S, support fleet & equipment in near real-time

- Collects & sends information from your vehicle to your PC or mobile device.
- Track location, speed, direction, kilometres or hours and ignition status
- Automatically updates to dataFLEX360
- Manage driver behaviour & easily adhere to health and safety legislation



Track and monitor your HDV'S with a rugged IP67 created for mining

- Track location, speed, direction, kilometres or hours & ignition status
- Complete integration with all brands of vehicles
- Greater reliability with a heavy duty back-up battery and high-gauge cable options



Monitor and manage your fleet from your PC or mobile device.

- Real-time data at your fingertips in an intuitive and visual format
- View your fleet's location within seconds
- Reduce costs by accurately identifying inefficiency
- Create unique compound events for detailed events
- Eliminate unauthorised vehicle use
- Monitor driver behaviour and geo-fencing and easily manage maintenance schedules.

Industrial and Mining

Integrated fuel and fleet management solution.

Find out how your site could benefit from 360° insight.

Email: GVR-mea-enquiries@gilbarco.com

www.gilbarco.com/mea

