FUELSENTRY

SMART FUEL MANAGEMENT FOR REMOTE SITES

by REVDEV Revolution Development Since 2013

Smart Fuel Management for Remote Sites

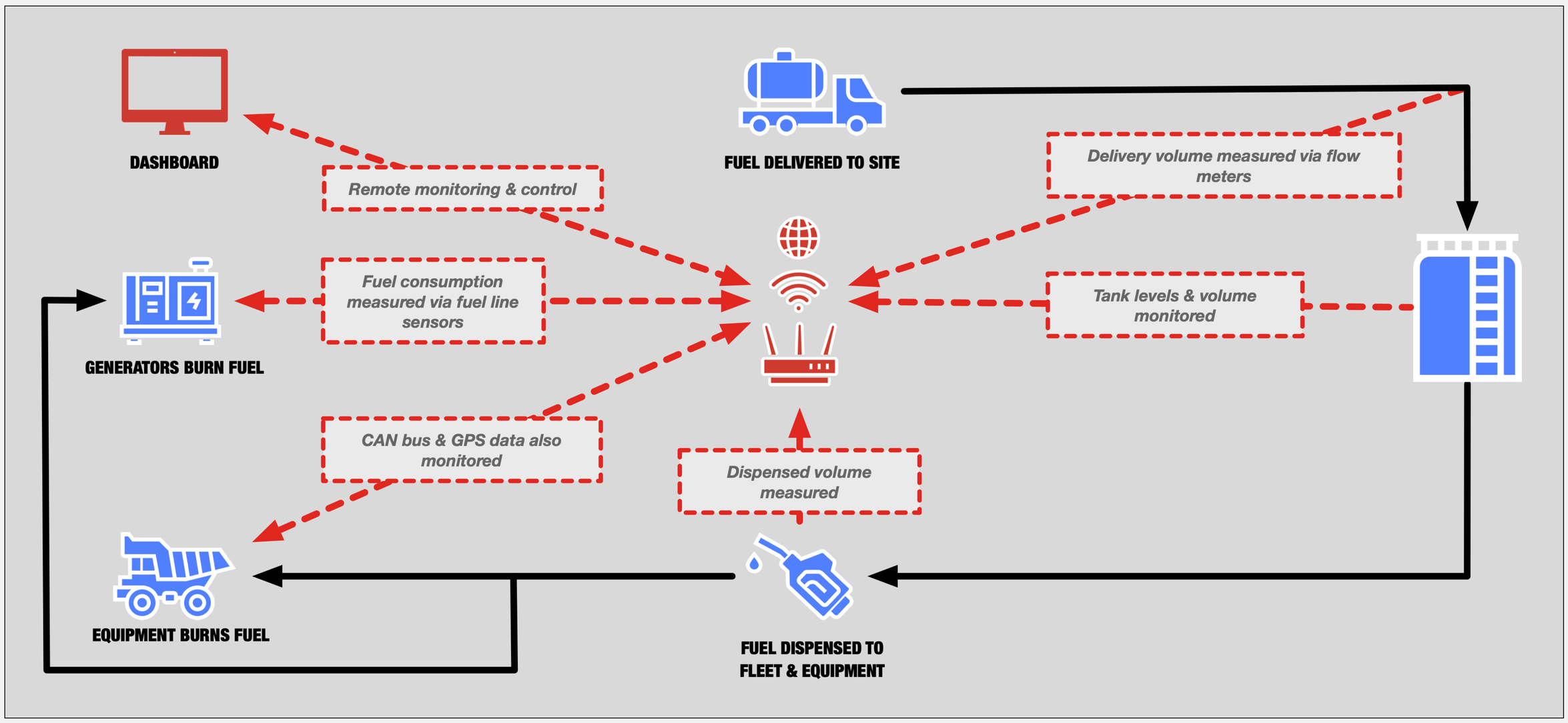
Secure Your Fuel, Reduce Your Costs, Lower Your Emissions

RevDev has developed a low-cost, fuel management system based on new technology that can be implemented at nearly any remote site. FuelSentry is designed to reduce fuel theft and waste. It provides real-time monitoring, alerts and the ability to remotely control equipment to ensure significant cost savings. Unlike legacy fuel managements systems, Fuel Sentry solution does not require existing network infrastructure or a satellite uplink. The system generally repays the cost of investment in fuel savings within a matter of months.

THE PROBLEM: FUEL THEFT AND WASTE AT MINES AND OTHER REMOTE SITES

Remote sites incur enormous fuel costs, often running into the millions of dollars monthly. Industrial studies show that a significant percentage of remote site fuel is lost to theft, spills and waste.

- **High Costs:** Monthly fuel expenses often reach millions of dollars.
- **Systemic Theft:** Employees, contractors, security guards and fleet truck drivers often conspire with suppliers to syphon off fuel. The loss of even a few % points of the monthly supply can cost hundreds of thousands of dollars.
- **Supplier Fraud:** Suppliers often deliver watered-down or low-quality fuel, but there is no simple way to detect this on-site.
- **Inefficient Practices:** Spills and idling equipment lead to fuel loss and waste.



THE SOLUTION: FUEL MANAGEMENT SYSTEM

FuelSentry provides an affordable, efficient solution for reducing fuel theft & monitoring fuel usage at remote sites without the need to build expensive networks or other infrastructure.

- **Innovative Technology:** Utilizes durable but low-cost Internet of Things (IoT) sensors & a self-contained remote network.
- **Cost-Effective:** Affordable cost, fast implementation (1-2 months), and a quick ROI.
- **Scalable and Adaptable:** The system is flexible, scalable, and cost-effective, making it suitable for almost any site and equipment, even for the smallest operators.
- **Comprehensive Monitoring:** Real-time data collection, remote monitoring via dashboards, automated alerts and actions.

CASE STUDY: THE NARAN TOLGOI GOLD MINE

Naran Tolgoi (Sun Hill) is an open pit, hard rock gold mine that runs on Euro 5 quality diesel. Fuel is trucked into the mine using trailers and stored in tanks at the fuel farm. It is then distributed to generator sets, haul trucks and other equipment. Site management recently caught several employees stealing large quantities of fuel. An internal investigation revealed that the problem was not a once off incident but was in fact systemic. FuelSentry was put in place, achieving significant reductions in fuel theft, leakage and wastage.

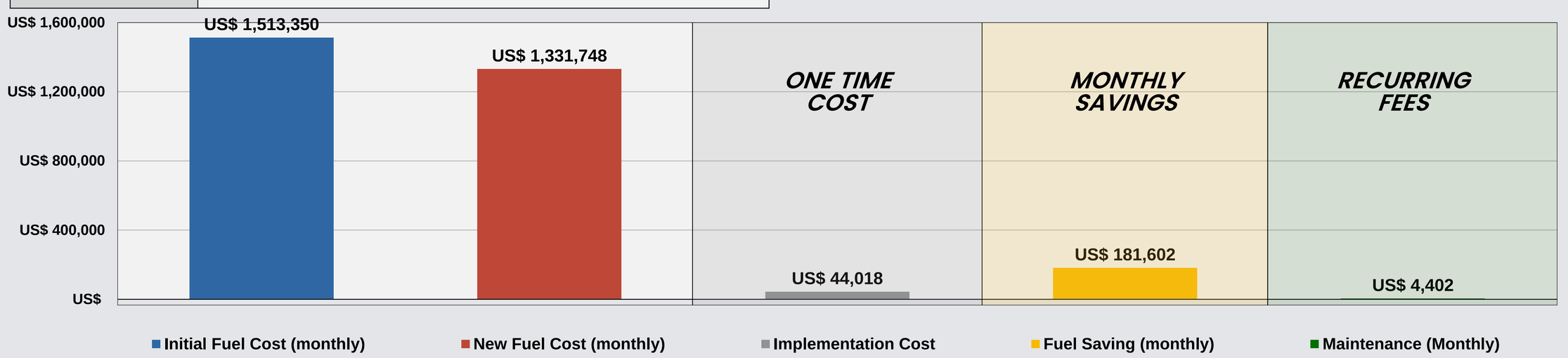
BACKGROUND	
Location	Naran Tolgoi Gold Mine, Mongolia
Fuel Type	Euro 5 diesel
Consumption	~900,000 liters / month
Fuel Cost	Nearly $1.5 million USD / month

PROBLEM	
Fuel Theft	Systemic theft by employees
Leaks	Fuel losses due to poor stores management
Supplier Fraud	Watered-down fuel deliveries
Inefficient Use	Gensets and vehicles idling while not in use.

SOLUTION	
Implementation Cost	~$44,000* total *Cost depends on number of assets that need to be integrated
Hardware	$24,000 (multi-measurement flow-meter sensors, level and quality sensors, actuators, router)
Configuration	$20,000 for setup and configuration
Installation	Network setup (single router) and sensors on all tanks, bowsers, and fuel lines in equipment. Actuators on.
Alerts	Set for unexpected drops in fuel levels and discrepancies in fuel usage
Servicing Cost	~$4,000 / month

RESULTS	
Management caught several attempts and fuel theft within the first week of using the system. They also discovered that the fuel supplier had been watering down the supply delivered to site. Management gained the ability to remotely shut off idling vehicles and gensets.	
Immediate Impact	Detected several fuel theft attempts and supplier fraud within the first week
Annual Savings	Reduced monthly fuel consumption to 778,000 liters (12% reduction)
Breakdown	*Theft Deterrence*: 8%, *Inefficient Idling*: 2%, *Leakage*: 2%
Savings	More than $181,000 USD per month **ROI:** Achieved within the first quarter

1 ROUTER DEVICE HAS A RANGE OF 10-20 KILOMETERS & CAN COMMUNICATE WITH ALL IOT SENSORS WITHIN THIS RADIUS, EVEN DEVICES LOCATED UNDERGROUND & INSIDE OF STRUCTURES



KEY FEATURES: CUTTING-EDGE TECHNOLOGY

Fuel Management Systems have been around for decades but in the past, implementing these systems took a great deal of time and money. The systems were also not practical at remote sites where network infrastructure was lacking.

- **Low-Cost Remote Network:** With a single router device, RevDev can develop a network at any remote site. The network extends for 10 kilometers or more in every direction, with no need for cellular, satellite or microwave uplinks.
- **IoT Sensors:** Using radio wave technology, the network can gather information from flow meters, volume meters, level sensors, fuel quality sensors, fuel factor sensors and other Internet of Things (IoT) devices installed on equipment anywhere near the remote site.
- **Advanced Software:** Aggregates data and detects anomalies – e.g. the fuel level in a tank begins falling unexpectedly OR the amount of fuel dispensed to a vehicle does not match the fuel burned for a period.
- **Custom Alerts:** Automated alerts and the ability to remotely deactivate equipment.
- **Add Ons:** The technology can be modified to monitor and reduce emissions for ESG compliance. Fuel quality can also be measured.

Join the many operations optimizing fuel management with FuelSentry

Website: Visit **www.revdevit.com** for more information

Contact: Reach us at **info@revdevit.com** or **+976 7610 3300**

Request a Quote*: Complete **our online questionnaire** for a customized quote.

*Cost depends on the number of assets that need to be integrated

REVDEV
Revolution Development
Since 2013