



FREEWAVE

OIL & GAS SOLUTIONS BRIEF

Totalizing Every Last Drop

When data becomes knowledge, decision-makers become confident about taking bold action for greater operational efficiency.

THE POSSIBILITY

Transforming network data into an ally

Data is a mere record in time. When we bridge these moments with operational insights from the source, then mission critical information becomes accessible – continuously – to people at all levels within an oil and gas operation. The outcomes are significant. Output is maximized. Downtime risk is reduced. Safety is prioritized, and rapid response becomes a competitive edge. Wells “work together” cohesively rather than compete with other production lines so total production is optimized downstream. People throughout the organization make more strategic decisions.

In the case of totalizing for oil and gas companies, the act of knowing how much product (oil, gas or steam) has passed by a sensor over time becomes paramount in daily operations.

In this solution brief, you'll learn how FreeWave can work with oil production and process companies to monitor Totalflow devices resulting in access to critical information: the amount of oil extracted from the ground.

The user scenario: the end-user in this Solution Brief manages two facilities, each facility has seven to 10 remote terminal units (RTUs). There are no digital output controls (binary signals that send a command like open or close a valve or turn a switch on or off) or analog output controls (signals that continuously send a range of conditions) in this scenario.

THE INNOVATION

“How much oil did we really pump out of the ground and have we exhausted every last bit?”

A nagging question of most oil producers and a challenge that seems ubiquitous with many oil and gas production sites is how to manage the array of protocols and languages of the installed products in the field. A variety of protocols and languages along the data journey oftentimes makes it impossible for oil and gas producers to accurately know exactly how much oil is being pumped out of the ground at any precise moment because there is no standard language for the data as it streams in from various IoT devices into a SCADA system or, in this case, graphical interfaces in the field.

Less Guessing, More Insight

Leveraging a FreeWave end-to-end solution was the difference-maker in totalizing for this customer, eliminating uncertainty about the quantity being pulled from and pumped out of the ground.

We began at the edge (the source of the data) and installed an ORBCOMM® ST6100 satellite terminal to monitor an Emerson® FloBoss™ S600+, in less than 10 minutes. The FloBoss acts as a MODBUS RTU slave device with MODBUS registers to serially transmit the amount of liquid pumped. This terminal was set to poll every four hours, pushing data through based on three criteria:

- I/O change
- Time (every four hours)
- Requested data on-demand

Setting these criteria helps control data costs by eliminating costly, repetitive data transmission.

MODBUS data, picked up by sensors at the well, traveled through the Viasat® cloud data mailbox via ISATDATA Pro satellite services to the FreeWave Insights™ cloud-based data platform.

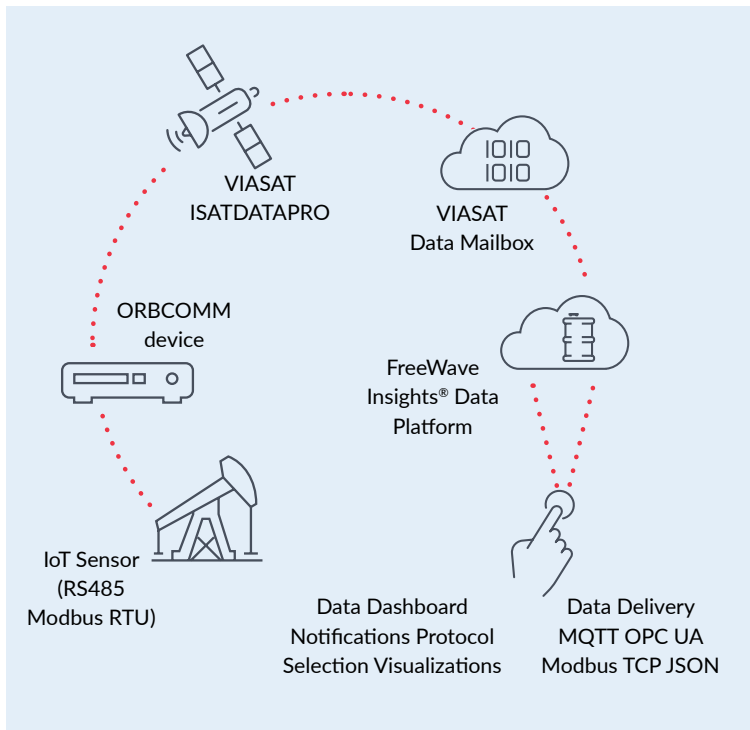
The FreeWave Insights data platform is tech agnostic. It transforms raw data – no matter its protocol (kind of like a translator connecting two people speaking different languages): MQTT, OPC UA, Modbus, TCP, among others. In this case, the data needs to be converted to OPC UA (Open Platform Communications United Architecture) before becoming actionable insight via Human Machine Interfaces (HMIs) – like desktops and mobile devices used by people in the field, regional offices, and headquarters.

FreeWave Insights enabled people to create greater business value and more informed decision-making.

Empowering People with Data

The purchaser received the produced oil, delivered it through its pipeline knowing, with no uncertainty, that every drop was totalized. The processor knew exactly how much oil was extracted and was accurately compensated.





FreeWave empowers people in different roles across an organization – from field engineer, to plant manager, to regional and C-suite leaders – so they can make intelligent, data-driven decisions for greater operational efficiency.

As a global authorized reseller of ORBCOMM and a Wholesale Connectivity Partner of Viasat ELEVATE, FreeWave brings the expertise and solutions together with simplicity and ease to industrial leaders operating in areas with limited or no terrestrial connectivity.

FreeWave and its satellite-enabled IoT solutions portfolio and the FreeWave Insights data platform can connect you with critical data your team needs to make better informed decisions, increasing productivity along the value chain.

Connect with us to learn more.

CONNECT WITH US

ABOUT FREEWAVE

FreeWave® Technologies provides industrial wireless and IIoT solutions for people passionate about the beauty of a data-informed world, connecting the disconnected within a technology ecosystem.

For more than 30 years, we've empowered industrial leaders to drive operational efficiencies using data – from proprietary radio technologies to telemetry solutions to edge decision-making, artificial intelligence and now our standards-based communications, applications, and software tied together with cloud services.

FreeWave closes the coverage gap in your remote networks as a Global Authorized Reseller of **ORBCOMM®** satellite-connected devices and a Connectivity Wholesale Partner in **Viasat's ELEVATE** program, providing reliable and secure data service plans.

CONTACT US

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