

A silhouette of several oil pumpjacks against a bright, orange and yellow sunset sky. The pumpjacks are arranged in a line, receding into the distance.

ISATDATA PRO AND BGAN ARTIFICIAL LIFT

SATELLITE CONNECTIVITY ENABLES PREVENTATIVE MAINTENANCE OF ARTIFICIAL LIFTS, MINIMISING COSTLY DOWNTIME

YOUR CHALLENGE

An oil well's natural flow rate slows over time, as pressure in each reservoir naturally decreases. To enable higher levels of production, oil and gas companies implement artificial lift processes to apply additional pressure within the well reservoir, forcing oil to the surface and thereby maintaining, or increasing a well's flow rate.

To ensure optimal production levels continue, oil and gas companies need to monitor artificial lift performance data, so they can make equipment adjustments and predict and carefully plan any required maintenance. This helps to avoid revenue loss and minimise safety risks relating to the integrity of the wellbore and surface facilities which can, if not properly managed, lead to accidents such as explosions and leaks, in turn causing damage to the environment.

The remote locations of many of these reservoirs means that not only are they difficult to reach on site visits, but they are also often badly served by cellular. Consequently, oil and gas companies find themselves choosing between two expensive options: install costly infrastructure to gain

connectivity at these sites, or send engineers there to physically assess conditions. The latter is also inefficient and risky, as it requires travel time and potentially puts people in harms' way.

OUR SOLUTION

This solution is comprised of market leading wireless artificial lift sensors from Inmarsat's partners, backhauled by IsatData Pro or BGAN M2M on our ELERA L-band network. ELERA provides military-grade safety and security and is the most reliable satellite network available. Its robust capabilities operate even in adverse weather conditions, such as heavy rain, where other satcom networks may struggle.

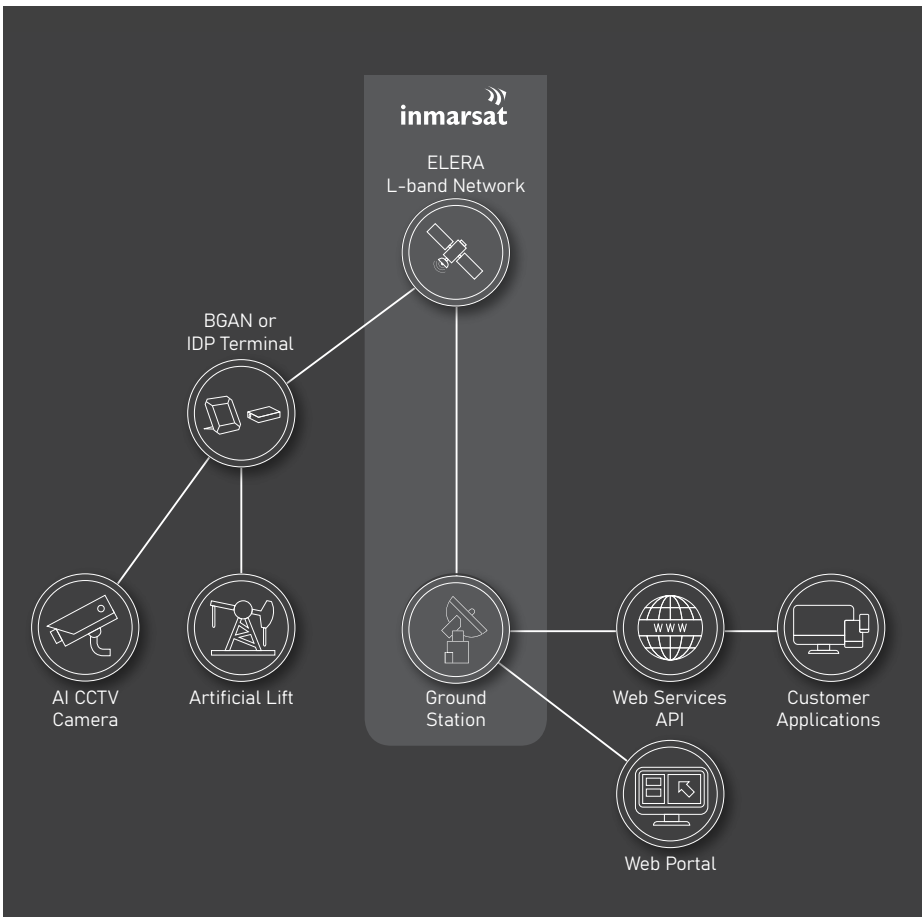
Artificial lift solutions like this one are typically used by oilfield services companies operating over large land areas, who require secure data collection, transmission, evaluation and interpretation to optimise the performance of artificial lift systems in real time to prevent failures or shutdowns.

Typical benefits to a service company using this system to optimise artificial lift decisions would include:

Reducing unplanned downtime: Aging assets are more prone to expensive downtime due to wear and tear and local environmental conditions. Unplanned downtime can cost, on average, more than US \$250,000/hour, with some companies reporting an average cost of more than US \$25,000/minute in lost revenue.¹

Reduced time and cost of monitoring artificial lifts: Remote artificial lift monitoring reduces the need for a lone worker (or team) to visit a field to monitor conditions. In a typical scenario this could easily amount to savings of between US \$500 and US \$40,000 depending on the artificial lift location, crew size and type of trip²

Reducing environmental impact and the resulting fines: Fines for environmental offences imposed by regulators cost the industry significant sums. For instance, the average fine for an environmental breach in the United States in 2021 was US \$1,157,006 million. So, using satellite IoT to monitor and predictively maintain artificial lifts, not only protects the environment, but it can also save over a million dollars on average for each accident averted.³



SOLUTION FEATURES

- Provides the ability to remotely diagnose artificial lift data in real time
- Overcomes the connectivity divide: sensors can be deployed to artificial lift sites with unreliable or non-existent terrestrial connectivity
- Fully optimised gateway for use with satellite and artificial lift monitoring sensors keeps system costs low
- Quick and easy to deploy, with compact form factor
- Self-powered: solar panels ensure no dependency on mains power, providing complete freedom when selecting an installation site
- Built to withstand the toughest natural environments, with a proven track record of deployment in extreme conditions

To find out more or to purchase:

W: inmarsat.com/enterprise

E: enterprisesales@inmarsat.com

¹ Unplanned downtime in numbers: How bad is it? – INTECH Process Automation <https://www.intechwww.com/some-interesting-statistics-about-unplanned-downtime/>

² Well Monitoring by Satellite – <https://hiber.global/well-monitoring/>

³ In 2021, 118 fines for environmental violations were issued in the United States, totaling US \$136,526,764. Therefore, the average fine that year was US \$1,157,006 https://violationtracker.goodjobsfirst.org/prog.php?major_industry=oil%20and%20gas&page=1

inmarsat.com/enterprise

While the information in this document has been prepared in good faith, no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability (howsoever arising) is or will be accepted by the Inmarsat group or any of its officers, employees or agents in relation to the adequacy, accuracy, completeness, reasonableness or fitness for purpose of the information in this document. All and any such responsibility and liability is expressly disclaimed and excluded to the maximum extent permitted by applicable law. Coverage as shown on maps is subject to change at any time. INMARSAT is a trademark owned by the International Mobile Satellite Organization, licensed to Inmarsat Global Limited. The Inmarsat LOGO and all other Inmarsat trademarks in this document are owned by Inmarsat Global Limited. © Inmarsat Global Limited. All rights reserved. Artificial Lift. July 2022