



ISATDATA PRO AND BGAN PIPELINE MONITORING

ENABLE ACCESS TO CRITICAL INFORMATION AND IMPROVE THE EFFICIENCY OF PIPELINE MONITORING WITH SATELLITE CONNECTIVITY

YOUR CHALLENGE

As part of the oil and gas industry's drive to reduce costs, improve safety, increase production and drive efficiency, pipeline monitoring is key to ensuring the smooth flow of product to its destination. Strict regulatory requirements and the vast distances pipelines traverse, make pipeline monitoring essential for maintaining operational and lone worker safety throughout these locations, as well as to respond quickly and accurately to any damage or leakages.

To have this impact though, reliable connectivity is vital. As pipelines can run great distances along inhospitable terrain, not only are they often badly served by cellular services, but they are difficult to monitor manually.

This challenge can seem a daunting one to overcome, with the cost of building infrastructure to support cellular connectivity (or any other form of terrestrial communications) along the length of a pipeline being prohibitively costly. Manually monitoring these pipelines requires constant costly and dangerous travel for engineers to assess conditions and performance, which is also unfeasible. Both options are inefficient and high-risk for employees, and the periods between maintenance visits could leave the pipeline exposed to unplanned outages, costly downtime

and potential damage if a problem occurs and operation is sub-optimal.

Fortunately, energy providers can use satellite connectivity to close such gaps, unlocking the valuable operational insights they can gain from careful pipeline monitoring to minimise unexpected downtime and avoid associated revenue losses. Similarly, such monitoring can also help them prevent accidents, such as explosions or leakages, and the environmental damage such events can cause.

OUR SOLUTION

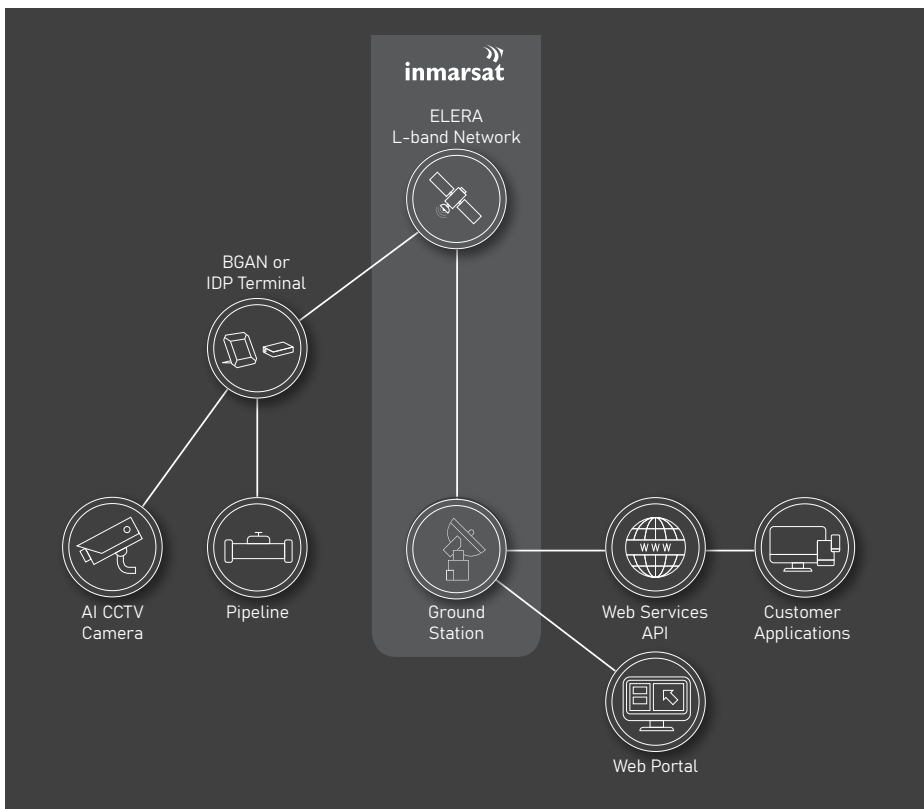
This solution is comprised of market leading wireless pipeline monitoring sensors from Inmarsat's partners, backhauled by IsatData Pro or BGAN M2M on our ELERA L-band network. ELERA provides military-grade safety and security and is the most reliable satellite network available. Its robust capabilities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

A typical situation would be a pipeline operator working across a large land area, requiring secure data collection and transmission as well as data evaluation and interpretation to optimise the performance of pipeline systems in real time.

SYSTEM BENEFITS AND ROI

Typical benefits to a pipeline company using this system to optimise real time decision making would include:

- **Reducing unplanned downtime:** the most common cause of unplanned incidents (35%) involves equipment failure, with another 24% of pipeline incidents due to rupture. Operators report an average daily financial impact of US \$224,000 from downtime. When multiplied by the average (8.9 days) per year of downtime, this adds up to \$2M per year in average downtime costs.¹
- **Reduce time and cost of pipeline monitoring:** using this system reduces the requirement for a field technician (or teams) to be dispatched. In a typical scenario, this could easily amount to savings of between US \$500 and US \$40,000 depending on pipeline location, crew size and type of trip.²
- **Reducing Environmental Impact:** Regulator imposed fines for environmental and safety related offenses are increasing. From a yearly global pipeline perspective, there are approximately 400 incidents a year, including hundreds of fatalities, 3,500 injuries resulting in US \$11 billion in damages). These incidents add up to an average of 117,000 barrels of hazardous products spilled per year.³



SOLUTION FEATURES

- Provides the ability to remotely diagnose pipeline data in realtime
- Overcomes the connectivity divide: sensors / M2M enablers can be deployed to pipelines with unreliable or non-existent terrestrial connectivity
- Fully optimised gateway for use with satellite and pipeline 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

¹Digital Transformation of Oil & Gas Pipeline Operations ([ge.com](https://www.ge.com))

¹The Problems With Oil and Gas Pipelines ([treehugger.com](https://www.treehugger.com))

²Well Monitoring by Satellite ([Hiber.Global](https://www.hiber.global))

³The Problems With Oil and Gas Pipelines ([treehugger.com](https://www.treehugger.com))

³List of countries by total length of pipelines ([Wikipedia](https://www.wikipedia.com))

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