IRIDIUM CONNECTS EQUIPMENT ACROSS THE DESERT

With reliable coverage anytime, anywhere, Iridium Edge® devices connect water tanks and pumps across the Vaca Muerta geological formation in the oil fields of Argentina's Patagonia Desert.

THE CHALLENGE

The oil rigs in Argentina's Neuquén Basin are spread out across miles of desert. Operators must check the supply levels in water tanks—as well as the settings on fracking pipes—before using any equipment for fracking, but some of these facilities are so far apart that it takes two or three hours to drive from one to another.

Two companies sought to address this challenge: Tesacom, an Iridium partner in the region, and Exemys, a technology company that helps customers monitor dispersed and remote assets. The Exemys® GRD, a small and lightweight piece of electronic hardware for remote monitoring, can be attached to industrial equipment and connected to the Internet to provide status updates on equipment like water tanks and pumps and to enable workers to remotely adjust settings. However, these devices need a reliable connection

COMPANY	CHALLENGES	BENEFITS
■ **Tesacom Group** is a regional company pioneer in Internet of Things and mobile satellite leader in Latin America, committed to providing customers with end-to-end communications solutions. Tesacom also develops mobility and interoperability networks, multimedia solutions, hardware, and software. ■ **Exemys** is a company dedicated to the development and production of telemetry, connectivity and acquisition equipment to monitor remote assets.	■ It takes hours to drive to various equipment sites for manual checkups; therefore, oil companies turned to Exemys for a remote solution. ■ Many Exemys assets are installed on equipment far from cell towers and Internet cables. ■ Exemys needed a compact modem that could be connected to their own equipment, without the expense of having to construct large antennas.	■ Tesacom knew that the small and easy-to-install Iridium Edge is the ideal product for Exemys's needs to connect their equipment to a reliable satellite network. ■ The Iridium network provides connectivity even in remote locations because the Iridium constellation covers the entire Earth's surface. ■ Exemys customers can now check for updates on their equipment from a computer or smartphone.

iridium®

to a robust network with coverage across the entire region. Some oil companies have used cellular networks to connect this type of equipment, but doing so is extremely resource-intensive: each location would require an antenna 3 or 4 meters in height, as well as transportation for both the materials and the construction team.

THE SOLUTION

To communicate with their equipment, Exemys sought out a service provider that could offer easy-to-install devices and consistently strong coverage. Exemys reached out to Tesacom because Tesacom understands and facilitates the highly complex operations, logistics, distribution, and resource administration in the many sectors of the telecommunications industry. Tesacom identified Iridium Edge as the perfect tool to provide Exemys with the coverage it needed.

> **"Working together with the integrator allowed us to detect that the Iridium Edge equipment was the best option available for this specific case. The reliability and simple implementation of this equipment was crucial to develop the business."**
>
> —Santiago Nicolet,
> Tesacom Projects Director

By combining its cellular telemetry equipment with Iridium Edge devices, Exemys was able to establish communication with remote assets over Iridium's Short Burst Data® (SBD®) service. Through Exemys's online services, GRD users can get in touch with their equipment remotely for data retrieval and adjustments to settings. Exemys Research and Development Manager Francisco Remersaro explained that his team needed something that "we can quickly connect to our device" and noted that Exemys could easily and efficiently link their own equipment to the ready-to-install Iridium Edge.

Because Iridium Edge offers 180° line of sight coverage, it functions fully when installed atop existing equipment, removing the need for Exemys to build antennas at each site. This also makes it much faster to get Exemys equipment up and running, cutting down on the time from purchase to full operation. As an added bonus, Exemys never has to worry about any of their Iridium Edge devices running out of power: "You can easily power it with a small solar panel," said Remersaro.

THE IMPACT

Oil companies partnering with Exemys no longer need to send anyone to manually check their tank levels and adjust their equipment. Workers can now remotely check the status of tanks and pumps—as well as adjust their settings—without driving through the desert for several hours to do so. When testing a previous satellite device from a competitor, Exemys would experience blackout periods for up to ten hours at a time. However, thanks to the strength of the Iridium® constellation in Low-Earth Orbit, Iridium Edge offers connectivity 24 hours a day in remote locations from pole to pole. Many Exemys customers now receive automatic updates on the status of their equipment each hour, or even more often if desired.

The compact size of Iridium Edge empowers partners like Tesacom and their customers to keep innovating with the knowledge that Iridium will reliably connect their devices to a network with robust global coverage: Remersaro noted, "It's easy to continue adding new applications because now, we have a standard product."

Exemys GRD

Iridium Edge

Service Provider: Tesacom Group
Enabling Product: Iridium Edge®
Iridium Core Component: Iridium Satellite Short Burst Data® (SBD®) Transceiver