



OptaSense Enhances Tunisia Pipeline Integrity With 4-Mode Leak Detection

Fiber-Optic Monitoring System Provides Real-Time Leak Detection and Location

The Challenge

In 2012, BG Group, the owner and operator at the time of the 128 km gas pipeline along the coast of Tunisia from the Port of Gabes terminal to the Hasdrubal gas processing plant, had a requirement for a pipeline leak and intrusion detection system. BG Group was subsequently acquired by Shell, forming Shell Tunisia Upstream Limited.

Following evaluation of various systems and technologies, BG Group elected to install an OptaSense four-mode leak and third-party intrusion detection system. The system uses Distributed Fiber-Optic Sensing (DFOS) and is based on in-situ fiber optic cable which is converted into an array of virtual "microphones" which monitor and "listen" to the entire length of pipeline

in real time and convert the acoustic data to specific alerts.

The Solution

The system consists of three OptaSense OLA Interrogator Units installed at the Gabes Terminal, an intermediate block valve station and the Hasdrubal Gas Plant with control access at the Gabes Terminal.

The system has now been in operation for over 10 years with its performance found to be satisfactory by the current owner and operator of the pipeline, Amilcar Petroleum Operations S.A.

Based on the performance of the system, Amilcar followed up the installation with a one year support contract with two one-year extensions which, following its expiry

Background / Problem:

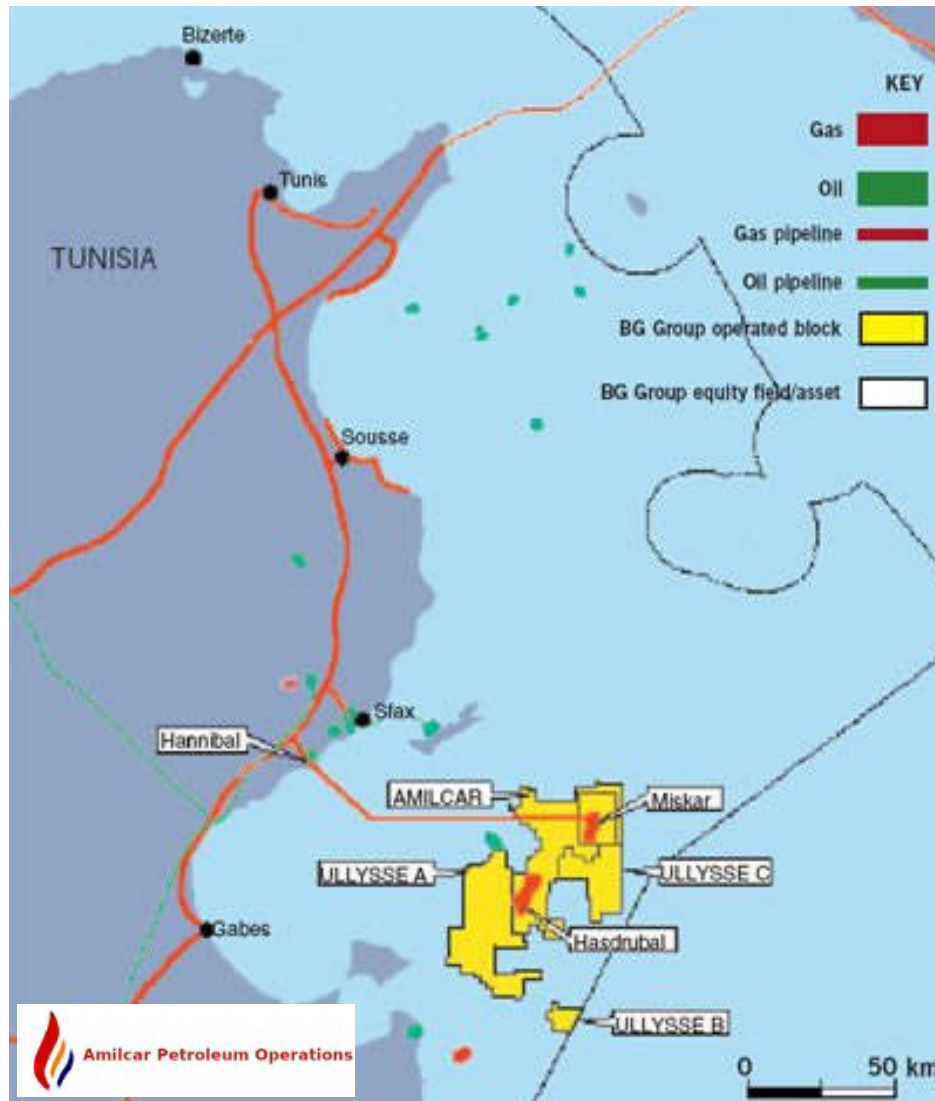
- Potential losses through leaks and third-party intrusion on pipeline

Solution:

- OptaSense Pipeline TPI Detection covering 128km with a 10m accuracy delivering the following alerts:
 - Manual digging
 - Mechanical digging
 - Vehicle approaches
 - Activity (pipeline)

Value Delivered:

- Real Time Leak and Intrusion Detection
- OptaSense Post Delivery Support via:
 - 24 x 7 E-mail Support with a 48 hour response
 - 40 hours of engineering support
 - Four day health check visits per year with performance review reporting
 - Rapid spare replacement
 - Emergency response to site



in 2022, is expected to be extended for another two years until 2024.

Delivered Value

The system provides real-time detection and geo-location of leaks and intrusion attempts on the pipeline, enabling Amilcar security and integrity teams to respond to any threat before any damage or loss of product to theft occurs. Amilcar engineers'

support in adopting the state of the art solution contributed to a seamless implementation.

To learn how the OptaSense Fiber-Optic Pipeline Monitoring Solution can enhance your pipeline integrity, contact an OptaSense representative.

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