

INTERNET OF THINGS

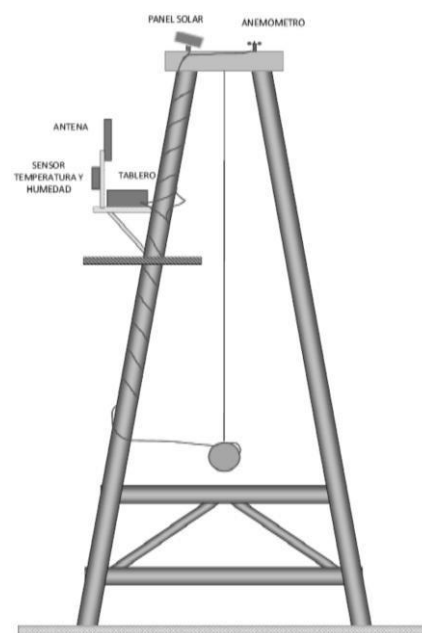
## IoT-based solutions for asset strain monitoring

IoT-based solutions focused on maximizing the overall efficiency of operations and maintenance processes, increasing asset availability and ensuring operational safety.

## Value Proposition

We help our clients in the **Oil&Gas, Mining, Industrial and Services** sectors in the monitoring of voltage status, detection of deformations and damage in various types of assets such as bridges, pipelines, towers, structures, from the provision of solutions based on the **Internet of Things** that allow **autonomous data collection and remote visualization** of information in real time.

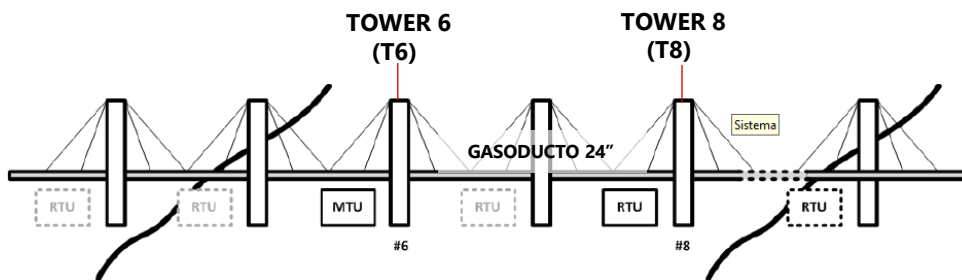
In this way, operations and maintenance managers are in a position to make the best decisions, maximizing the availability and operational safety of assets and generating lower operating costs derived from automation.



Solution installed in the Crossing Tower  
24" gas pipeline. Oil&Gas Industry

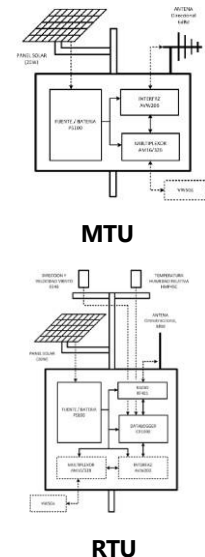
## Application Example

### IoT Solution - VWSG Monitoring and Logging System and Weather Data on Two 24" Gas Pipeline Crossing Towers



**1** The architecture of the acquisition and monitoring system developed was based on the installation of a master unit (MTU) in Tower 06 and a remote unit (RTU) in Tower 08.

**2** The master unit (MTU) is responsible for monitoring and recording, autonomously in a collector, the data from the meteorological sensors and the VWSGs, both local (T6) and remote (T8), for later access remotely.



## Real-time information display

Esta solución permite la captación autónoma de datos y acceso remoto tanto a información de VWSG (frecuencia, deformación, temperatura) como meteorológica (intensidad y dirección del viento; temperatura ambiente y humedad relativa)

Es posible el acceso on line a la información tanto a través de la interface web como de dispositivos móviles.



Visualización de Parámetros

## Benefits

**30%-40%**

Reduced  
information  
collection  
costs

**24/7**

Access to  
Real-Time  
Information

**35-45%**

Increased  
measurement  
process  
efficiency

**30-40%**

Incident  
Reduction

**2-6%**

Increased  
availability



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