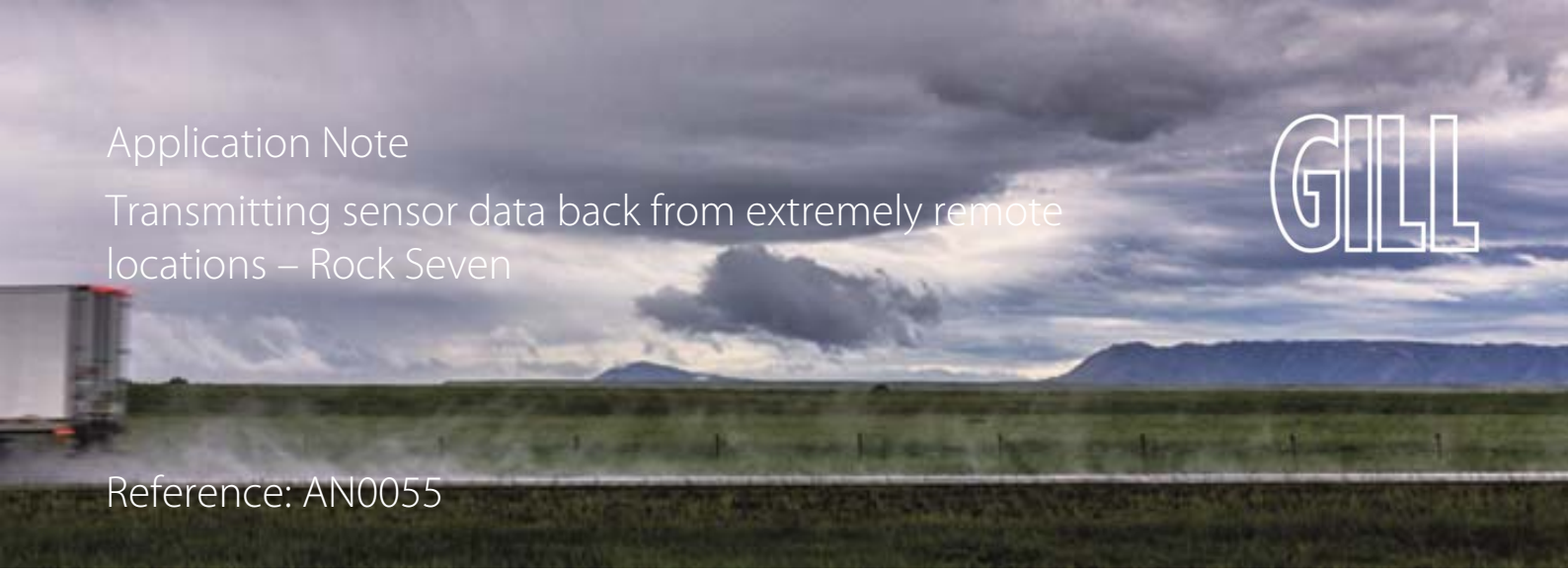


Application Note

Transmitting sensor data back from extremely remote locations – Rock Seven

Reference: AN0055

Introduction

Collecting data from extremely remote systems is now becoming commonplace, and there are a number of existing GSM/GPRS services which allow this. However, they assume that there is some form of mobile network coverage, whereas a lot of extremely remote installations are far from civilization or in areas where there gaps in the mobile network coverage.

Now, there is a way to collect data from your remote sensors regardless of where the systems are installed, using affordable Iridium satellites.

Application

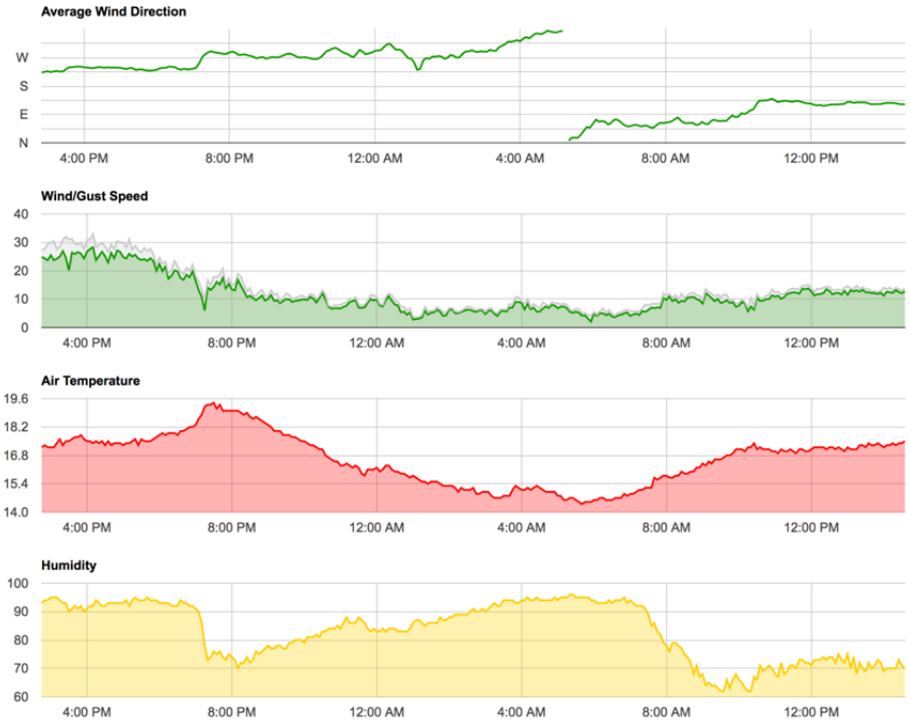
Rock Seven offers users the ability to connect to all Gill meteorological sensors, taking key data on a regular basis and transmitting it over satellites at an affordable price.

Alongside the meteorological data, the Rock Seven 'RockFLEET' unit also transmits position data – particularly useful where installed on buoys or other equipment that may move position either accidentally or by design. By getting regular position reports, you can receive early warnings if your equipment is moving off-station. RockFLEET is designed to provide global tracking and M2M/IoT (Machine to Machine / Internet of Things) data communication from anywhere in the world.

A Current UK Installation

The RockFLEET system uses the Iridium satellite network, specifically the low-cost Short Burst Data service, to deliver weather data from Calshot Spit. The new Calshot Spit Buoy is outfitted with a MaxiMet GMX600, which provides multiple weather parameters via a compact vertical station all combined into a single output string. The new Calshot Spit Buoy has been in service and providing data to the Solent users since July 2015 with very minimal service visits.

"Adding tracking and M2M satcom capabilities to buoys and floats is a simple process with the RockFLEET system, as demonstrated through development of the Calshot Spit Light Float weather station, which is now delivering accurate real-time data 24/7," says Nick Farrell, Director, Rock Seven.



As live visual example of the data being collected is shown at www.rock7.com/wind

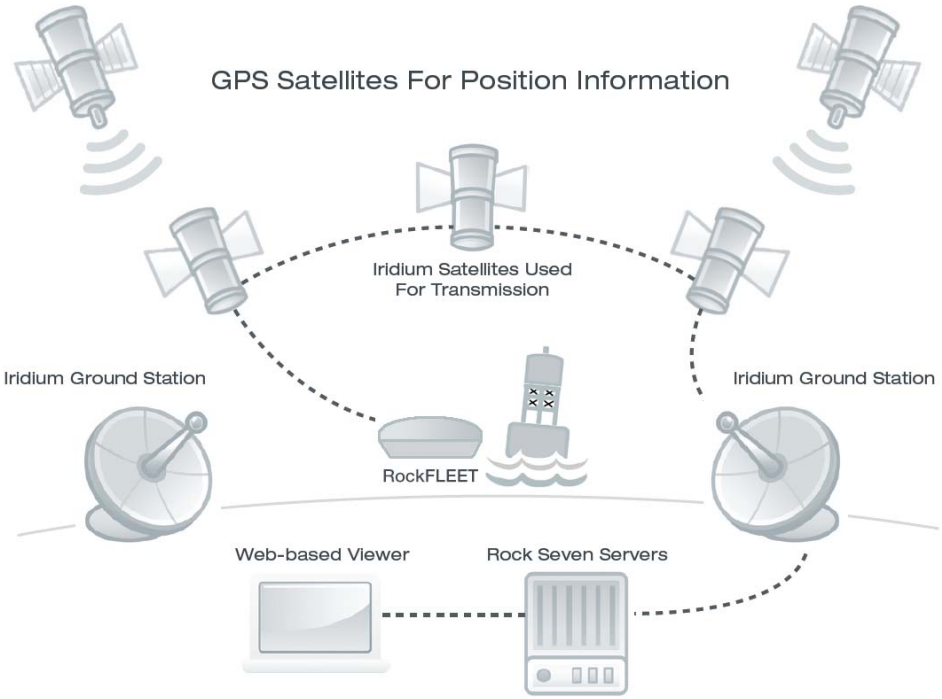
Remote Station Requirements

Low power Iridium-satellite based systems allow the remote collection of data from areas where there is no infrastructure or mobile/cellular coverage, and is perfectly suited to meteorological stations. Traditionally these systems would interface to existing SCADA or direct to a user's PC. With the advent and widespread adoption of cloud based services there is now far greater flexibility in the display and dissemination of remote data.

As the solution is satellite based, the solution will work anywhere on Earth. Provided the unit can 'see the sky' it is able to transmit the meteorological data back to you.

How is data received?

Data is transmitted using the Iridium satellite network as shown below:



Data from the service is delivered via HTTP POST to your own systems, and you can then store it in a database, analyse and process the data in whichever way you wish.

Tracking data can be reviewed on the web-based mapping solution, access to which comes with the product.

The system can also be managed using the Rock Seven web portal, allowing you to turn the satellite service on/off for months at a time, saving transmission costs when sensors are not in use.

Find out more Please email info@rock7.com for more information on RockFLEET.

Why Gill?

All of our meteorological sensors provide a human readable ASCII output that can be read by RockFLEET, this range from a simple, low cost wind sensor like WindSonic to our versatile compact weather station MaxiMet or configurable weather station MetPak, which covers most meteorological measurement requirements.

The RockFLEET allow users to take the flexibility of a compact weather station like MaxiMet or a configurable weather station like MetPak and provide a complete weather station solution covering wind speed/direction, temperature, relative humidity, pressure, rainfall, solar radiation and more by utilizing the MetPakPro's analogue inputs, with data available at the user's desk PC, mobile phone or tablet via any internet browser.

*** Please note that with RockFLEET data collection services charges apply.**