

## The Need for SonSetLink

One of the largest challenges of installing a well in a third-world community is to maintain pump uptime. SonSet Solutions has designed a platform called **SonSetLink™** (SSL) to help missions organizations monitor their pumps. Below is our monitoring technology for the Simple Flow solar well monitor (SF).

## How SonSetLink Works

SonSetLink is an **Internet of Things (IoT)** platform. An **IoT** platform is a series of physical objects that are connected digitally. SonSetLink is an end-to-end platform that allows remote access to pump data.

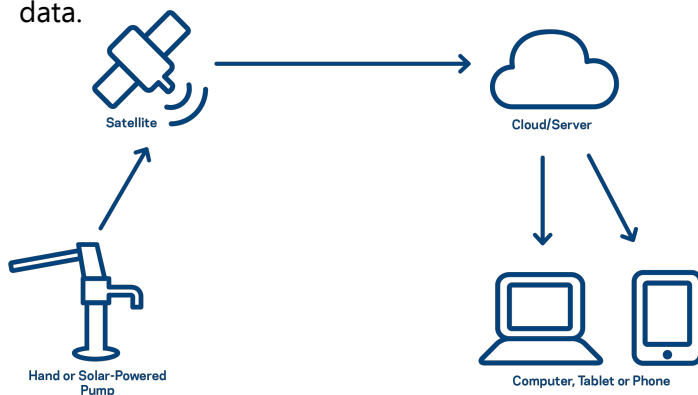


Figure 1: A diagram depicting SonSetLink, an IoT platform.

## The Hardware

### Body

SonSetLink technology gathers data using sensors that mount onto the SF. A built-in satellite modem transmits this data daily. Our SF SonSetLink has an IP68-rated enclosure, holding up well in harsh environments. It is powered with replaceable AA lithium batteries.

## Sensor Possibilities

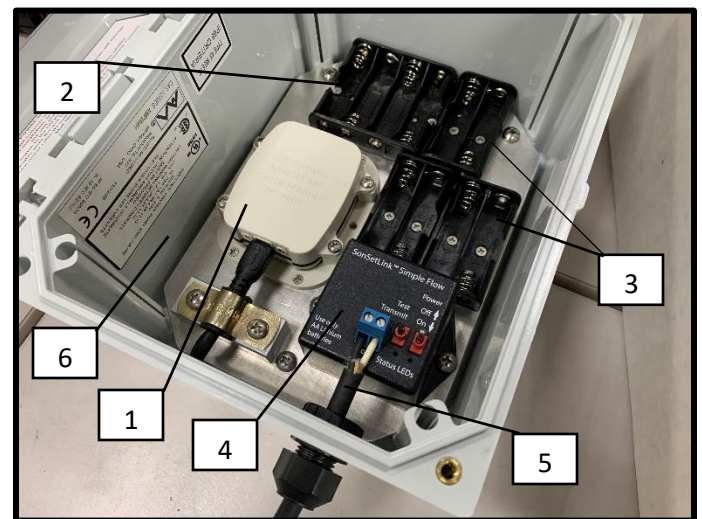
### Water and Usage Detection

The SF monitors water by using a separate flow meter installed in the system piping, which connects to the control circuitry inside the waterproof enclosure. By monitoring the flow of the water through the piping, the SF is also able to determine the usage rate, which it records and transmits along with the flow.

### Six-Day Flow History

One of the features of the SF is that it can provide monitoring history of up to 6 days in the past, so that the stakeholders can still view data if they missed viewing a day during that window.

## Monitor Setup



1. Satellite modem.
2. Modem battery pack.
3. Electronics battery pack.
4. Control circuitry.
5. Flow meter input.
6. Waterproof enclosure.

# SonSetLink Technology: Simple Flow



## Significant Stats

Together, the sensors measure the following:

24 Hours of Data (six 4-hr slots)
<b>Flow</b>
Volume of water that flowed through the pump
<b>Time-in-Use of the Pump</b>
How long the pump was active
<b>Max Ambient Temperature</b>
The highest temperature at the pump
<b>Electronics and Modem Battery Level</b>
Battery levels of the monitor
<b>Six Days of Flow History</b>
Volume pumped each of the last six days



## Support the Work

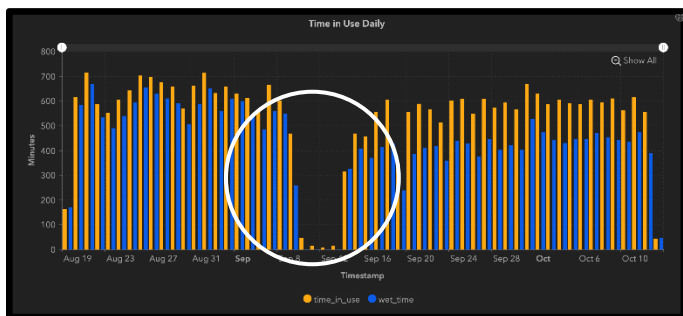
By partnering with nonprofit organizations who can use our technology, we are not just making a physical impact, but a spiritual one as well. By supporting this mission prayerfully and financially, you can make a spiritual impact as well.



Village leaders pray over an India Mark II hand pump, equipped with a SonSetLink, in Tanzania.

## Impact

The purpose of SonSetLink is to ensure that nonprofit organizations can observe the conditions of their pumps. One example of the effectiveness of SonSetLink can be seen on the graph below:



The graph above is not of SF data, but the principle is the same. If an SF fails, the downtime is detected. A maintenance technician can be deployed to repair the pump, and the uptime resumes. This is just one example of how monitoring pumps can be so important.

If you feel called to support this initiative, see below for the contact info.

Donations:  
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