

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 setup for the SonSetLink Solar well monitor.

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.

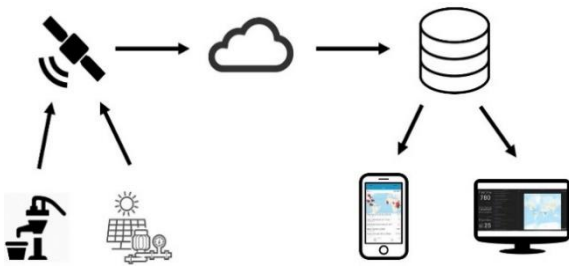


Figure 1: A diagram depicting SonSetLink, an IoT platform.

The Hardware

Body

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

Sensor Possibilities

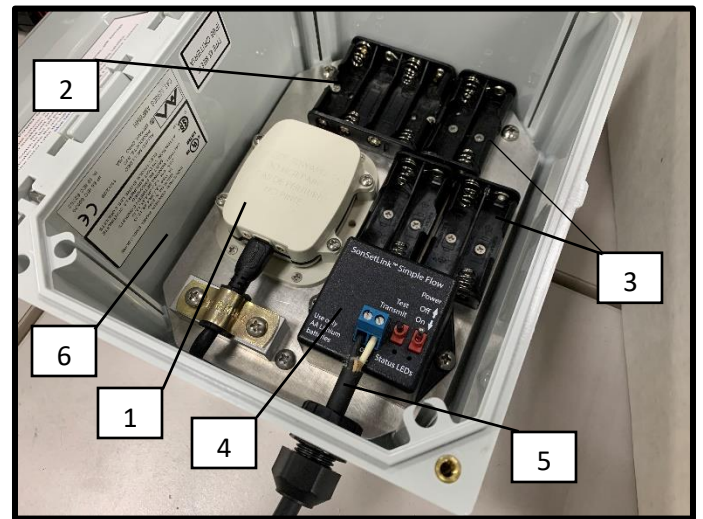
Water and Usage Detection

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

Six-Day Flow History

The unit provides monitoring history of up to six 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.

Significant Stats

Together, the sensors measure the following factors:

24 Hours of Data (div. in 6 4-hr slots)
Flow
How well the water flowed through the pump
Time-In-Use of the Pump
The period where the pump was active
Max Ambient Temperature
The highest temperature outside the pump
Electronics and Modem Battery Level
The level indicating the level of use of the monitor
Six Days of Flow History
A six day record of how consistently the pump worked

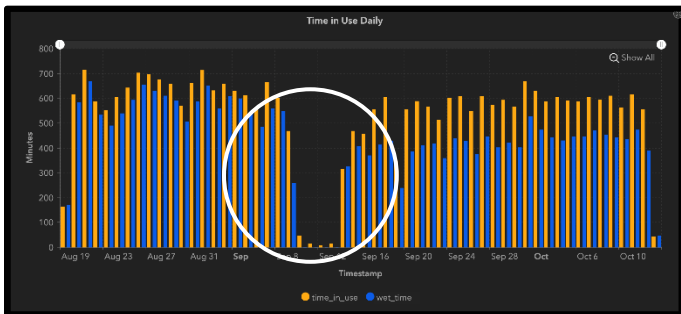


Support the Work

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.

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:



If a pump 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.



Figure 5: Village leaders pray over an India Mark II hand pump, equipped with a SonSetLink, in Tanzania.

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

Donations:
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