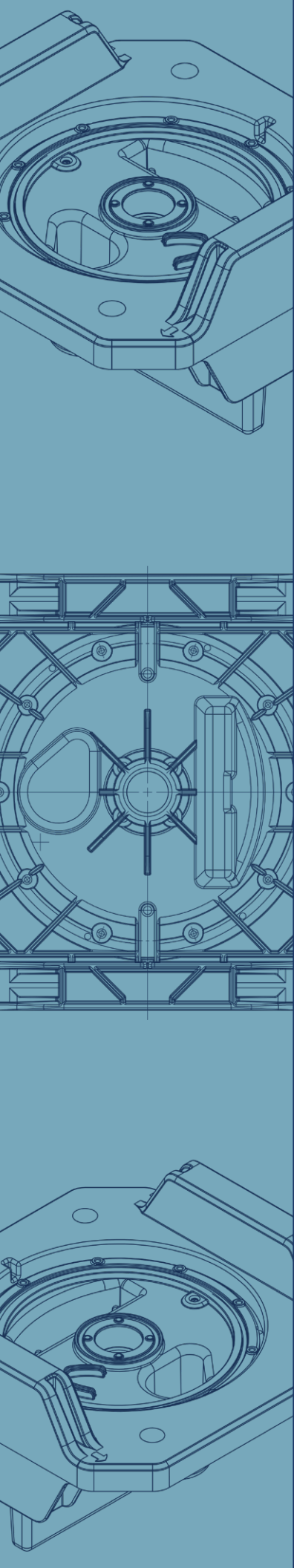**INTRODUCING THE**

INDIA MARK II SENSOR

Sustaining access to clean water is crucial no matter where you are in the world. For millions of remote communities that rely on hand pumps as their water source, the India Mark II Sensor is an especially revolutionary device.

By transmitting water flow data via the internet, the India Mark II Sensor can improve service levels, reduce maintenance costs, and help strengthen water systems. This technology delivers two groundbreaking services:

- **IMMEDIATE BREAKDOWN ALERTS**

- **REGULAR REPORTS OF FUNCTIONALITY STATUS AND HOURLY WATER CONSUMPTION**

An easy-to-use data platform offers maps, performance trends and analytics for government agencies, private operators, NGOs and donors working to achieve SDG-6: sustainable access to clean water for all.

We're excited for you to leverage this technology throughout your service area.
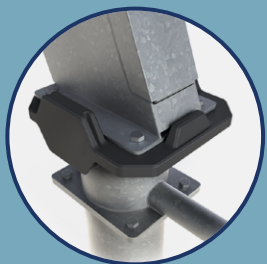
DATA-INFORMED DECISIONS

The sensor measures the quantity of liters pumped per hour and uses that data to create user-friendly reports that quickly identify problems. Maintenance service providers can use those reports to remotely monitor multiple locations, reducing their operational costs and improving service levels for communities. Local government leaders will also find the performance data valuable for decision making and demonstrating sustained impact to donors and funding partners.

HOW IT WORKS

From its secure position inside the India Mark II hand pump, the sensor uses a block of eight carefully enclosed, high-tech sensor pads. Capacitive sensing technology is used to measure water pumping through the system, and a magnetometer counts handle strokes. Combined with a sophisticated algorithm, the sensor is able to immediately detect a pump failure so that a mechanic can be alerted and deployed to service the hand pump.

Data from the India Mark II Sensor is transmitted over the GSM mobile network. Satellite data is significantly more expensive than mobile phone data and requires much more power to transmit. By conserving power with mobile phone data, we can extend the sensor's battery life to more than ten years.

DATA PROCESSING

A single sensor can take over 10 million readings in a 24-hour period. The data is analyzed as it's gathered using advanced machine learning and Internet-of-Things tools in the cloud. Customized insights and alerts are then emailed every morning to users in the field.

CONSTRUCTION & TESTING

We designed the India Mark II Sensor with simplicity and durability in mind. Relentlessly tested, it survived every drop, stress, and environmental factor we threw at it—a monsoon simulation included. The sensors are also manufactured at scale, to industrial standards.

INSTALLATION

The sensors automatically geolocate, eliminating the need for extensive training requirements or installation equipment. The size, geometry, and weight were all specifically chosen for ease of transportation and installation. Installation takes about 15 minutes, and there's no wrong way to do it. The sensor does not interfere with water flow or pump functionality.

COST

The current cost of the India Mark II Sensor is $250. This covers the device and 10 years of data transmission. For a fraction of the value of a community's hand pump, it can now be transformed into a smart pump with a powerful sensor that improves service levels while reducing maintenance expenses.

Learn more at
CHARITYWATER.ORG/SENSORS

or email us at
SENSORS@CHARITYWATER.ORG