

## Smart Ultrasonic Water Meter with AMI



**Problem Statement:** Reliable and accurate water metering is crucial in the “water for everyone” mission. Metered water supply is necessary to achieve a fair water distribution across entire communities. Further, live monitoring and analysis of water supply & consumption patterns are necessary for efficient water management in smart villages, townships and cities. Among the various flow metering techniques, ultrasonic flow measurement stands out in terms of its accuracy, reliability, maintenance, and cost-effectiveness. However, few indigenously made ultrasonic domestic water meter is available. Addressing this challenge, researchers at IIT Bombay aimed to make a full-fledged ultrasonic water meter - high quality, reliable, rugged, and affordable ultrasonic meters for domestic potable water metering. The researchers have developed a state-of-the-art smart ultrasonic water meter with advanced metering infrastructure (AMI) technology. The product can be widely deployed by Water Supply Boards,

Municipalities, and Smart Cities for domestic water metering.

**Uniqueness of the Solution:** A fully functional, IOT compatible ultrasonic water meter with AMI is ready. The key features and capabilities are Automatic Meter Reading, Reliability, Accuracy, IOT ready, Data encryption, Low maintenance. The performance of the designed meter is found to match well with those of commercial (imported) meters. Product is believed to be a breakthrough, as it offers all the features of imported water meters, but at a fraction of their cost.

**Current Status of Technology:** The product is certified and fully ready for commercial production.

**Societal Impact:** The product plays a key role in drinking water metering. The benefits are consumer accountability, equitable distribution of drinking water, and reduction of non-revenue water (NRW). The product can be widely

deployed by Water Supply Boards, Municipalities, and Smart Cities to save drinking water.

**Patent(s):** Nil

**Relevant Industries:** Water Supply Boards; Municipalities; Smart Cities

**Faculty:** Prof. P. S. V. Nataraj, Systems & Control Engineering.