

# ACOUSTIC MASS METER

## Combined Water Flow and Suspended Sediment Meter

**DHI Water & Environment Pte Ltd.** is an independent research and consultancy firm.

DHI's objectives are to build competence and promote technological development in areas relevant to water, environment and health in the fields of ecology and environmental chemistry, water resources, hydraulic engineering and hydrodynamics.

### Background

The water industry is currently lacking **reliable, precise and easy-to-use**

- flow meters and
- sediment concentration meters

which are  
maintenance- and calibration- free

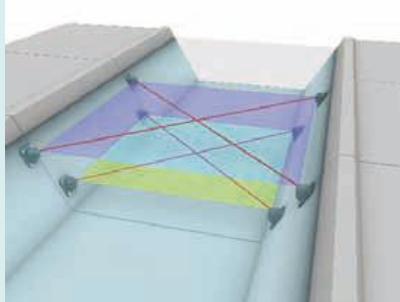
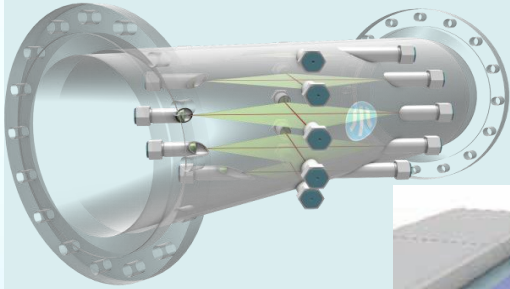
Ultrasonic technology is the technology of choice due to the non-contact and non-intrusive nature of ultrasonic.

### Main Objectives

- 3D simulation of the water flow in complex pipes
- Improve accuracy and reliability for flow measurements
- Simulation of the interaction between sediment particles and different ultrasound frequencies
- Overcome in-situ calibration needs
- Combine both principle to determine the absolute mass of sediments

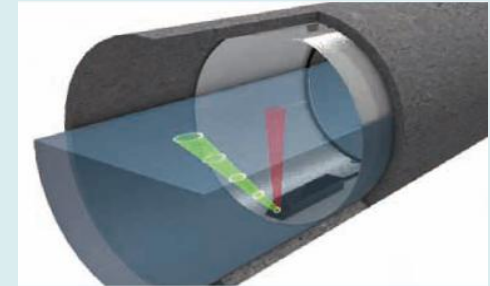
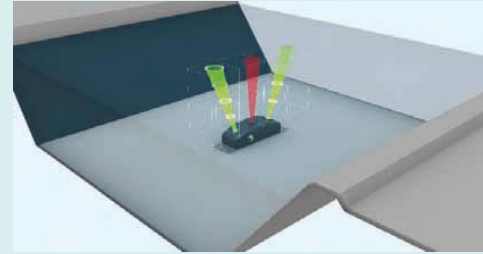
**Flow Meter**

**based on transit-time measurements**



**Velocity results with highest accuracy**

**Multi-Frequency Backscattering**



**Calibration free Sediment Meter**

Combination of both subsystems in one hybrid device

**Acoustic Mass-Meter**

Which can be applied in various fields of