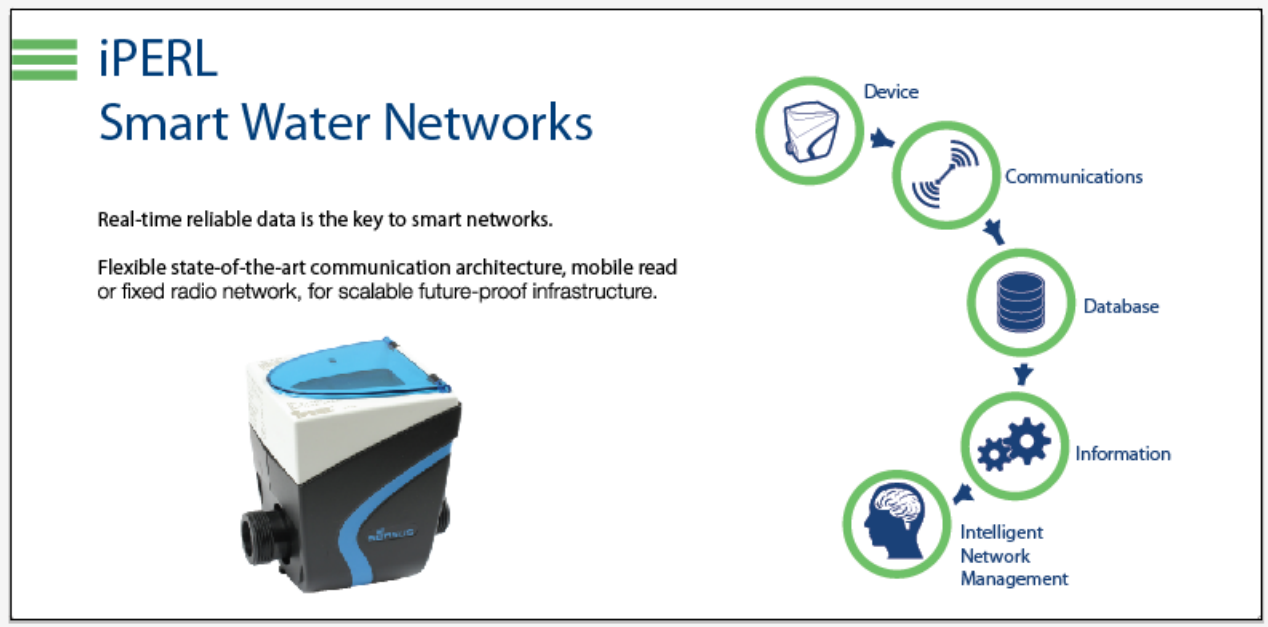


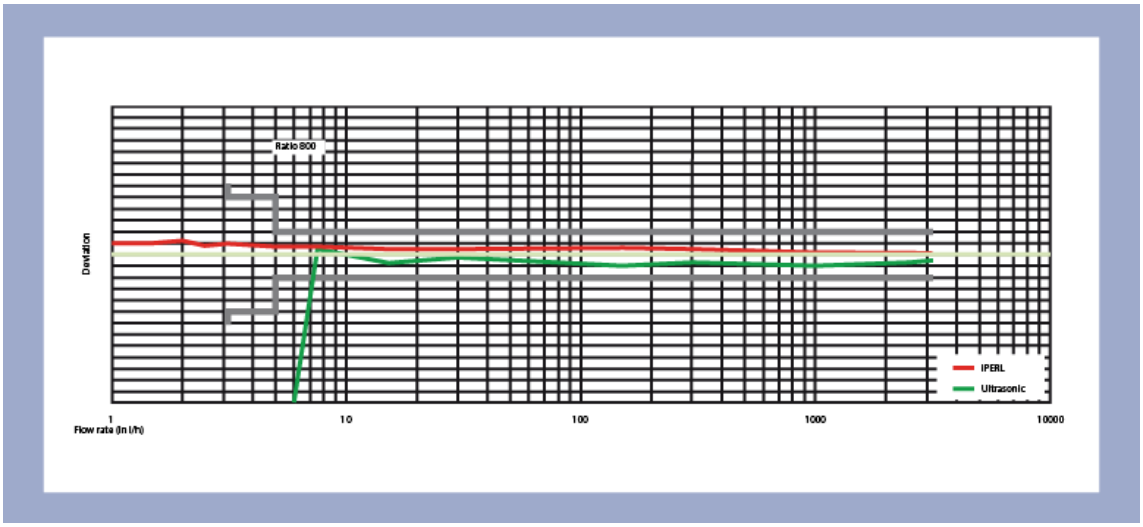
Business benefits and added value

Reduce non-revenue water	iPERL offers incredibly **low flow measurement** capabilities, with data collection starting at 1 Litre per hour. It samples every 4 seconds which enables it to capture near zero flow. **Alarms** can also be pre-set to detect customer-side leakages at much lower flows than with any other meter technology. Integrating iPERL to a fixed communications network enables **15 minutes interval data** to be transmitted. This helps improve the accuracy of leakage detection, allowing faster interventions and reduction in water losses.
Reduce maintenance	Designed as a static meter, iPERL **does not require maintenance** over its product lifetime. iPERL is **resistant to network incidents** such as water hammers and particles which means that it does not require any maintenance, especially in comparison to ageing mechanical meters. When connected to a fixed radio communication infrastructure, **less meter reading staff** is required in the field. They can then be reallocated by the utilities for example to customer services and other network maintenance tasks. Whether work force or financial, any resources within the utility can be optimised by installing iPERL in the network, leading to a **better network management.**
Improve operational efficiency	iPERL is designed based on complete and simple life-cycle principles. From the selection of the network fitting sizes through to delivery, usage and disposal, its technology has been designed with simplicity in mind. iPERL's composite body makes it very light, making it **easy to transport, store and install.** Rated IP68, it can be **installed in any environment**, indoor or in flooded meter pits. No installation settings are required, making it completely **"plug and play"**. It even **detects the flow direction** by itself so the meter installer can set it up in **any position** according to the ease of installation and usage. Its disposal has also been taken into consideration in the product design so that its potting, electronics and body are **fully recyclable**. As a solid-state meter, iPERL is **not affected by sand or particles** present in loaded water and **resistant to network incidents** such as water hammers and high peak flows. Thus, through every

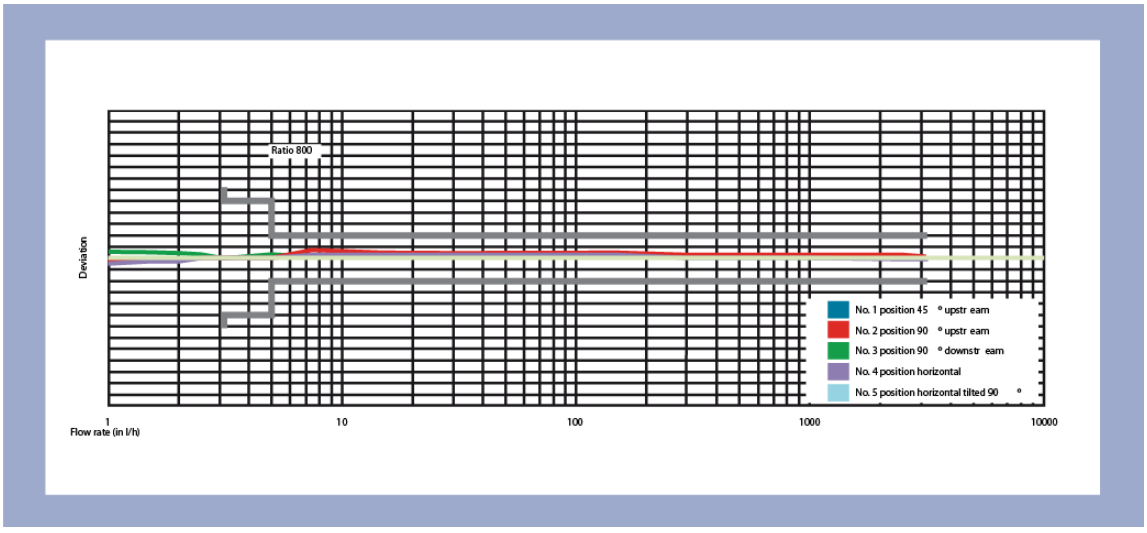
	aspect of its technology and features (no straight length up or downstream, installation in any position, IP68, automated flow direction detection, extended measuring range, product range availability from DN15 up to DN40), iPERL is able to answer any network requirement. Moreover, its **scalable integrated radio communication system** allows remote reading even for meters not so easily accessible making data-collection and transfer very simple, regardless of the utility's preference for mobile or fixed network. iPERL is the critical component of a Smart Water Network, today and tomorrow.
Improve customer service	Using iPERL to communicate real-time reliable data combined with a faster reaction to network incidents, utilities can deliver their customers with a **better water supply, at the right pressure and shorter down times**. Accurate usage data and **reducing leakages** on the customer side also allows customers to keep track of their usage patterns and improve their water consumption behaviour and help reduce their bills. Improvement in customer water usage behaviour and service offered by the utility both contribute to increased customer satisfaction.
Improve ROI	iPERL technology not only offers a very low starting flow rate but constant accuracy over the course of its product lifetime, meaning **a greater percentage of customer water consumption is captured**. As a solid-state endpoint, **it does not age** compared to mechanical meters. Its patented electromagnetic technology **does not get affected by trapped air, sand or particles but even measures air within the pipe**. This ensures that its accuracy at day one remains the same after many years and prevents unplanned maintenance costs. The resources previously allocated to these network maintenance issues can then be reallocated to other value-added services. Thanks to its leakage reduction capability, iPERL is **the perfect solution for non-revenue water; less energy for pumping and less treatment chemicals get lost in the ground** (which often doubles the loss for the utilities as this not only impact costs but is not billed to the end-user). Water utilities can therefore invoice the amount of water which has actually been used by the customer.

Accuracy	Benefits
Linear performance curve with R800	Accurate readings across the complete flow range starting at very low flow rates with 1l/h thus reducing the amount of non-revenue water.
No moving parts	Sustained accuracy across all flow rates throughout its product life. Because iPERL does not have measurement mechanisms with any moving parts that may deteriorate over time due to poor water quality or sediments.
Continuous flow measurement	Accurate and reliable data through continuous flow measurement. All transient flow rates are recorded. iPERL is designed in the way that battery life is not compromised by continuous measurement which cannot be achieved by ultrasonic meters using a sampling rate.

Performance Curve: iPERL vs. Ultrasonic meters



Performance Curve: By installation positions



Data	Benefits
High data frequency	**Data as you need it** The data capture frequency can be configured to provide interval data for example at real time, 15 minutes or 30 minute interval data as required
Data logging function	**No data losses and extended information** iPERL has an internal memory capacity of 2,880 point data which is equivalent to a historical data over one month at 15 minute interval.
Alarm function	**Fast reaction on incidents** The integrated alarm function can be used to detect any given event such as unusual usage patterns, customer side leakages or fraud.

Communication	Benefits
Two way radio communication	**Flexible communication** iPERL is built to work as part of mobile meter reading by handheld devices (walk-by/drive-by). Furthermore it can be installed within a fixed network using SensusRF or it can be integrated with Sensus FlexNet™ fixed AMI communications network to transfer data over a dedicated, reliable and secure network.
Open standard	**High compatibility** iPERL is both SensusRF and Wireless MBus compliant. It supports both Sensus and 3rd party open standard solutions.

iPERL Fixed radio network - Remote Access & Monitoring