Solving daily water challenges with smart metering

Keyword 01, Keyword 02, Keyword 03

Rainbow Residency installed remotely read intelligent meters to overcome severe water supply challenges. Meter reading and billing is now a smooth process and water management is no longer unprofitable. Residents have also benefitted through lower tariffs and billing based on exact consumption, which has increased their water conservation awareness.

Rainbow Residency is a housing society consisting of more than 170 villas located on the busy and constantly developing Sarjapur road in Bangalore, India. As there is no water supply from the municipality in the Sarjapur area, water management and efficient use of this resource have been a challenge for the society from the beginning. For their daily water supply, residents depended on external sources like water tankers and digging into their borewell, which took up a lot of both time and money.

The society has a dedicated committee working for the betterment of the entire layout and they had continuously looked to methodologies and technologies of the future to find a solution. This included rain water harvesting pits and using treated water for gardening and flushing toilets, making the society zero liquid discharge (ZLD).

But perhaps their biggest step taken to conserve and manage water efficiently was installing a smart metering solution in 2017, as the committee realised they were spending a lot of money on procuring water for all the residents but were not keeping track of how much water was actually consumed.

Finding a sustainable solution

In addition to the growing costs, the society had the everyday hassle of dealing with the water tanker supplier who would sometimes manipulate the volume of supplied water and overcharge them. They were buying water at Rs 100 per kilo litre, but even though residents were billed the same amount, this didn't cover their costs due to additional spends on procurement through the bore well and the tanker.

The turning point was when they closed accounts for the financial year 2016-17 and realised they were losing INR 36,00,000 in water management, an accumulated loss over 6 years. Major steps now had to be taken to find a sustainable solution for their daily water needs. The society committee, therefore, contacted Kamstrup to offer a suitable smart metering solution that was accurate, reliable and would ensure quality of data and transparency in operation – and Kamstrup delivered.

"After the first meter was installed as a pilot, we could clearly see the difference in the measurement and the data gathered. Also, the product demonstration was smooth and supported a lot of learnings," says Ramesh Sivaram, committee member.

Meter reading in less than hour
According to Satish Muniyappa, the estate manager at Rainbow Residency, the best thing about the new solution is that a simple and easy remote reading solution has replaced the need for manual meter reading, which was a laborious task that took several days.
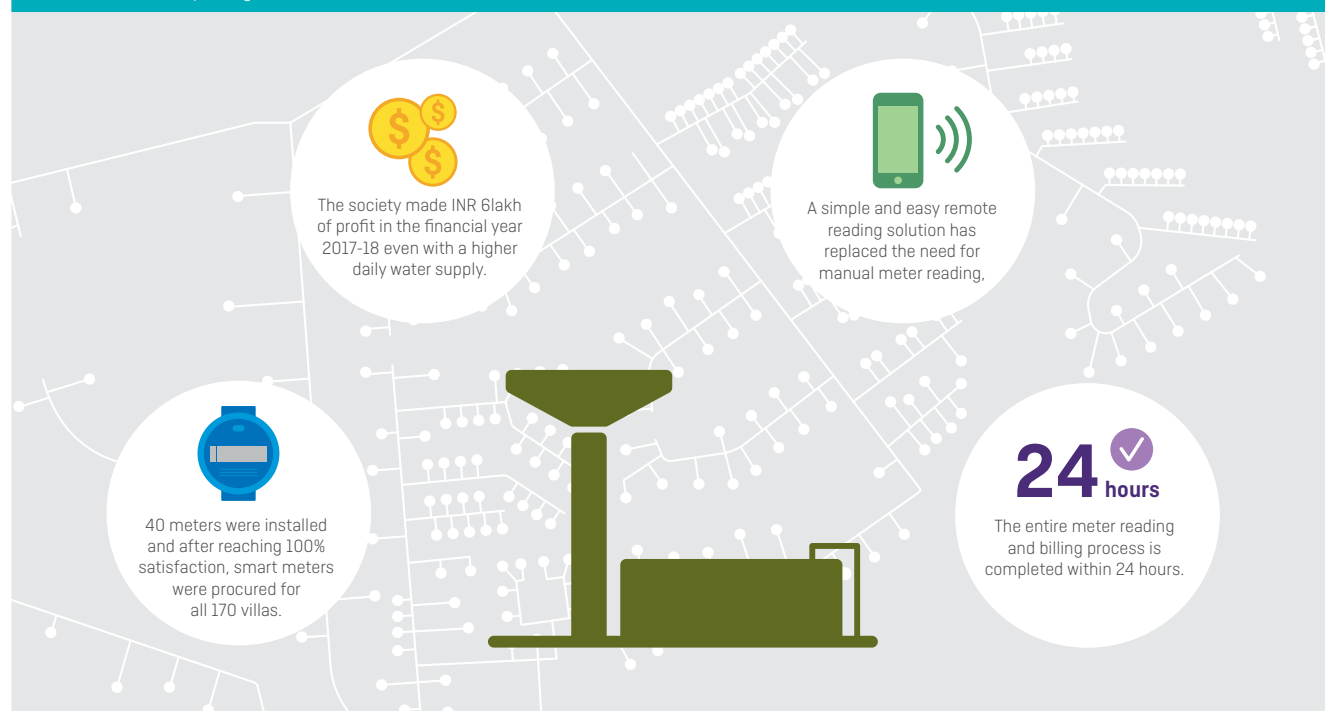
Today, collecting meter data from all the houses takes less than an hour. Meter reading is done on a bike and requires only two people, the USB reader and a laptop. The entire meter reading and billing process is completed within 24 hours, and on the last day of each month, consumers receive their bill on their phone.

In this way, AMR has helped improve operations and saved a lot of time: "Every day, 600 litres of water is supplied to each house, and we get exact data of water supply and consumption. Previously, worn-out mechanical meters and errors due to manual meter reading meant that we would only get data on 50% of the water supplied." Furthermore, despite a huge problem with low pressure in the pipelines, the meters measure no air, but only the water supplied.

As a result, after installing smart meters – with no changes in the tariff and procurement costs – the society made INR 6lakh of profit in the financial year 2017-18 even with a higher daily water supply compared to the year before. This great result has also benefitted residents by enabling the managing committee to reduce the tariff for consumers. At Rs 100 per KL, it is affordable, yet at a level that makes consumers conscious of keeping a tab on their consumption.

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100% customer satisfaction

The project was an ambitious move for the society and initially, it faced resistance from some residents as they were required to shift from traditional metering with half of the meters in non-working conditions to a fully functioning smart metering system. Also, it seemed like a huge investment for the residents, so the committee came up with an innovative way of getting the funding by using the existing water security deposit to subsidise 50% of the investment.

Eventually, the residents realised the benefits it would bring and there has been no looking back since, explains Ramesh. "One resident challenged his water bill and demanded an explanation. We simply changed the meter to another one, which showed the exact same reading, and then there were no questions asked."

In the first phase, 40 meters were installed and after reaching 100% satisfaction, smart meters were procured for all 170 villas. "The Kamstrup meter looks robust and durable from the make and design, which just assures customers that it is both accurate and reliable," says Murulikrishna A.G. then Treasure of the management committee of Rainbow residency.

He also emphasises that after sales service from Virgo Technologies, Kamstrup's official partner in the region, has been great and that local support from Kamstrup was available at all contact points, all of what has resulted in an overall very fulfilling experience and an extremely satisfying project.

About the project

- Kamstrup solution: 170 flowIQ® 2101 smart meters with USB meter reader and software

- Partner: Virgo Technologies

- Timeframe: 2017 - 2018

Think forward