



# KT TELEMATIC SOLUTIONS PRIVATE LIMITED

SRI RAMAJAYAM BOREWELLS  
RUNNING BOREWELL OPERATIONS  
IN INDIA

**20** more borewell drilling rigs machines  
were equipped with **OMNICOMM**  
technology after a pilot project

Fuel contributes to over  
**70%** of operating costs  
and over 50 liters of fuel  
used to be unaccounted  
for every day before  
installation of  
**OMNICOMM**  
fuel sensor

Savings  
**OF ₹50,000**  
per month was  
achieved per  
borewell rig after  
installation of  
Omnicommm  
fuel sensor

Sri Ramajayam Borewells headquartered in Sankari, Tamilnadu, India has been running borewell operations since 2001. They operate a fleet of 20 borewell drill machines. Fuel contributes to over 70% of operating costs and over 50 liters of fuel used to be unaccounted for every day, as there was no way of tracking fuel stocks correctly.

KT Telematic Solutions of Sankari, Tamilnadu, India partnered with Omnicomm to provide a solution. An Omnicomm Digital liquid level sensor (LLS) was installed in the pneumatic compressor fuel tank. The LLS gives a precise measurement of refuel volume, consumption and residual volume with an accuracy of 99%. The allied liquid level display (LLD) gives a minute by minute digital reading to the operator onsite.



India has a significant agrarian economy. Over 600m people\* depend on agriculture for their living, and nearly two thirds of land under cultivation have no irrigation and thus rely purely on rain. The period between June and September brings 75% of the total rainfall, but is known to be erratic in four years out of ten.

Consequently, Indian farmers depend mainly on groundwater for irrigation. With increasing population, lesser land holdings and urbanization, deep borewells are dug to extract groundwater. Water is retrieved with the help of electrical pumps. India has an estimated count of more than 20m boreholes. The water table is falling on average by 0.3 meters per year and by as much as 4 meters in some places. Every summer, large pneumatic drills, such as the one above, arrive at the drilling site and drill down to anywhere between 200ft and 1000ft before hitting an aquifer.



Pictured here is a truck mounted companion pneumatic air compressor with a 2,800-liter on-board fuel tank. Once these machines drop anchor at a drilling site, they often drill continuously for 48-72 hours. Each drilling operation may consume up to 2,000 liters of diesel fuel. The Nearest gas station may be 100 km away. Manual refueling is done onsite using portable barrels & jerry cans.

\* Courtesy of the Economist and India Water Portal





Due to the manual nature of the refueling, where fuel from a gas station is carried over significant distances in barrels and jerry cans, local pilferage is common, and it is hard to pin down where and who has pilfered during each specific transit. By the time the jerry cans arrive loaded with fuel, there may be up to 20% of losses in volume. The machine operator has no foolproof method of measuring and recording the exact volume of fuel received.



Whenever the operator does monitor residual fuel, it is done using inaccurate dip sticks that bring about additional risk associated with the frequent opening of fuel caps in order to take measurements.

The actual installation and calibration processes were pretty simple and were conducted by technical experts from KT Telematic Solutions, with remote assistance from Omnicomm support. Due to large tank capacity, the team chose to do 30+ steps of calibration. The calibration table was uploaded on the LLD in 5 minutes.



*Before the team left the site, Mr Senthil, the owner of Sri Ramajayam Borewells, verified the accuracy with a couple of fuel tank refuels and drainings and gave a thumbs-up to the accuracy levels observed.*

*Sri Ramajayam Borewells has now installed Omnicomm LLS on 20 additional borewell drilling machines. Mr Senthil comments, "I was impressed by this technology's accuracy; we are now saving thousands of rupees every day."*





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