

Union Minister Dr Jitendra Singh announces financial support of Rs 3.29 crores to M/s Kritsnam Technologies, a Start-up Company, incubated at IIT Kanpur to develop smart water management technologies

MoU signed between the Technology Development Board (TDB) under DST and M/s Kritsnam Technologies for production & commercialization of Dhaara Smart Flow Meter

The technology can be a game changer in effectively monitoring & controlling the ground water exploitation across country in future: Dr Jitendra Singh

The Minister says, Water Meter will greatly benefit Prime Minister Modi's Atal Bhujal Yojana (Atal Jal), a Rs.6,000 crore Central Sector Scheme, for sustainable management of ground water resources with community participation

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Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh announced financial support of Rs. 3.29 crores to M/s Kritsnam Technologies, a Start-up Company, incubated at IIT Kanpur to develop smart water management technologies. He said, the technology, initially focused on commercial users, can be a game changer in effectively monitoring & controlling the ground water exploitation across country in future.

An MoU was signed in the presence of Dr Jitendra Singh between the Technology Development Board (TDB) under Department of Science and Technology and M/s Kritsnam Technologies Private Limited, Ranchi, Jharkhand for production & commercialization of Dhaara Smart Flow Meter.



The Minister was apprised that the start-up is developing ‘Dhaara Smart Flowmeter’ - an integrated system for online monitoring using two beam ultrasonic flowmeters that is designed to track the water distribution in real-time for applications such as drinking water supply, ground water extraction, industrial water usage and precision irrigation. The device collects data through sensors, stores it in the device, and transmits to the online cloud servers and thereafter the data transmitted to servers is analysed and displayed in the dashboard. This unique solution is a combination of hardware & software for flow measurement and water management respectively.

Dr Jitendra Singh said that Dhaara Smart Flow Meter will greatly benefit Prime Minister Modi’s Atal Bhujal Yojana (Atal Jal), a Rs.6,000 crore Central Sector Scheme, for sustainable management of ground water resources with community participation. The scheme is being implemented in 80 water stressed districts and 8,565 Gram Panchayats of seven States viz. Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh from 01.04.2020 for a period of five years. He said, Dhaara Smart Flow Meter can also help bulk water consumers to budget their water usage and empower them to understand their patterns, points of inefficiencies and help them to build strong strategies for reducing water wastage.

The Dhaara Smart Flow Meter is battery operated and does not require external power and the hardware architecture is based on the internet of things (IoT) communication circuits which is patented in India. In addition, it complies with ISO and Central Ground Water Authority standards. The water usage data is automatically recorded in an online logbook through telemetry via 4G/2G. The built-in telemetry and battery-operated capabilities make it easy for users to monitor their water consumption virtually anywhere (even when the power is out). The product being developed initially aims at commercial users like hotels, hospitals, malls, IT parks, schools, colleges and industrial users (food products, packaged drinking water, pharmaceuticals, paper & pulp etc.).

It may be recalled that the Central Groundwater Authority issued guidelines under which every commercial ground water user must install a smart water meter and pay yearly bills. All the project proponents/users drawing ground water and seeking/having NOC shall have to mandatorily install tamper-proof digital water flow meters with telemetry on all the ground water abstraction structures within their premises.

Ground Water levels in various parts of the country are declining because of continuous withdrawal due to reasons such as increased demand of fresh water for various uses, vagaries of rainfall, increase in population,

industrialization and urbanization etc. As per the assessment of Dynamic Ground Water Resources (2017) carried out by the Central Ground Water Board (CGWB) in collaboration with States/UTs, out of the total 6,881 assessment units (Block/ Taluks/ Mandals/ watersheds/ Firkas) in the country, 1,186 units in 17 States/UTs have been categorized as 'over-exploited' where 'Annual Ground Water Extraction' is more than 'Annual Extractable Ground Water Resource'.

Shri Rajesh Kumar Pathak, IP&TAFS, Secretary, TDB said, "Water is essential to all humankind & the ground water is dominant source of drinking water but the pace at which the ground water is depleting is alarming. Govt of India is taking urgent steps needed to replenish the ground water level through water harvesting technologies as well as planned & controlled ground water extraction. 'Dhaara Smart Flow Meter' from startup 'Kritsnam' would be a great addition to this endeavour. The smart meter has been designed in such a way that, it can perform ground water management with real time processing, even without electricity".

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