



Precision Agriculture: Automating Farm Irrigation

Intech Harness Pvt. Ltd. is an Agritech Startup that has developed and patented an AI-driven and IoT-ready Farmer Obedient Motor Controller for electric water pumps for irrigating agriculture farms. Jalpravah Pump Controller ensures water supply to the crop, irrespective of power timings.



This idea was developed by Mr. Tarang Patel, CEO of Intech Harness Pvt. Ltd. An M. Com graduate, Mr Tarang is an experienced business development professional and market analyst and hails from Pune, Maharashtra. He researched on challenges faced by farmers and built this product with the help of technologists. The objective was to develop an automatic motor controller for transferring an optimum quantity of water supply at the target farms.

The challenges faced in water conservation, depleting water table, increasing the farm yield through precise irrigation, convenience to farmers by eliminating undue manual effort in pump operation, helping increase farm income, eliminating extended pump operations were some of his key concerns while developing this idea.

Startup Product Details

Jalpravah Pump Controller, patented technology for farmers facing erratic power and water supply, automates farm irrigation with an ability to respond to power and water disruption without human intervention, unlike GSM-based controllers, which require human intervention to set right disruptions. It is a time-based automated system to control the supply of water on the availability of power (ability to make up for lost time).

The precise operation of the controller results in the saving of water and power and eliminates the need for manual intervention by the farmer to operate the pumps.

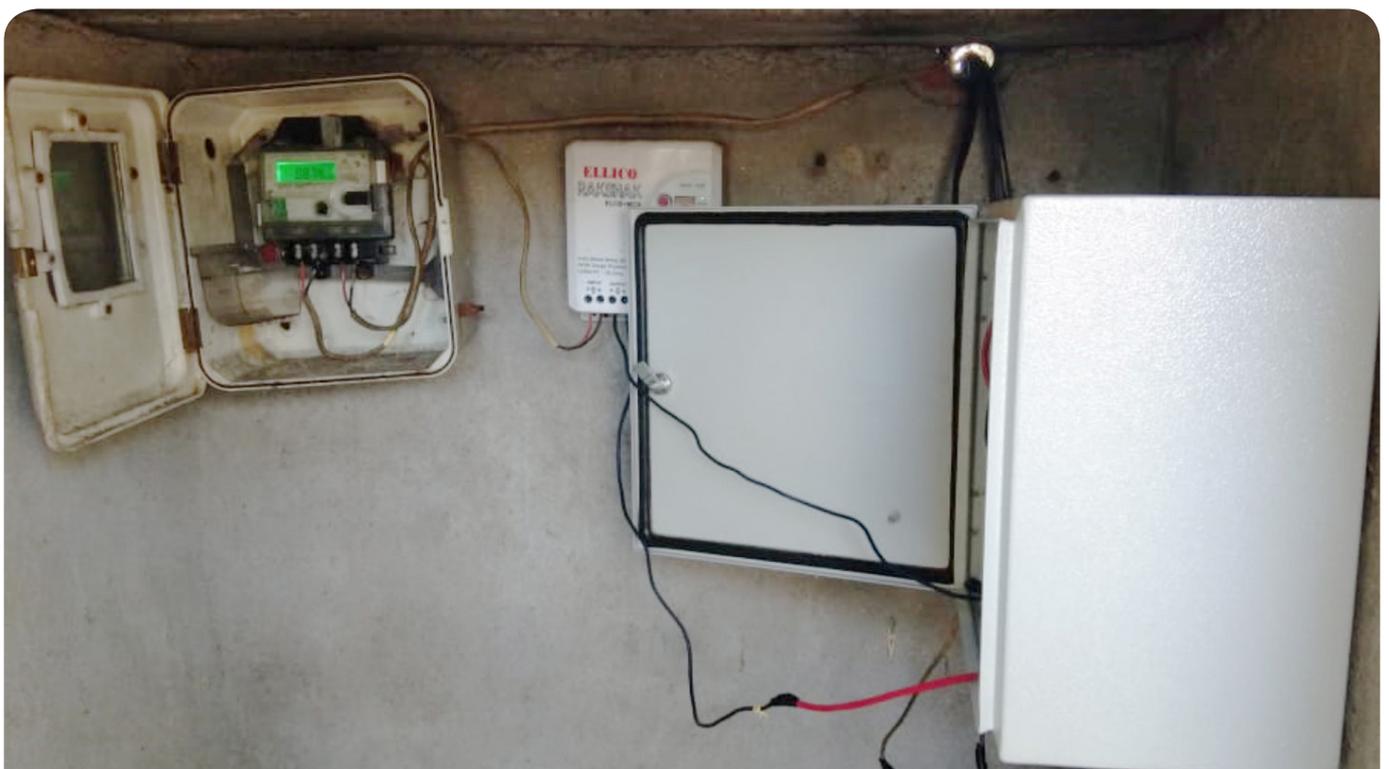
The controller has a feature to log data from the field, which can later be used for geo-mapping of wells, measuring the water level of the area based on dry run data, understanding the electricity conditions in the area and much more. OEM technologies is the technology partner for the Startup.

Benefits of Jalpravah Pump Controller

- **Runs through an automatic setting**
- **Responds to disruptions on its own**
- **Adjusts water supply based on multiple parameters**
- **Capable of Cloud Connectivity for Data Logging and Analytics**
- **No Manual operation required**

Operational Details

The company is in the early stage and moving towards scale up stage. The area of operations covers Maharashtra, Rajasthan and Gujarat. The company has reached 80 farmers and has networked with three agriculture-based NGOs, a Farmer Producer organization and a Federation of FPOs.



Recognition and Awards

With no competitors so far for their product, Mr. Tarang Patel was the finalist for Startup India Maharashtra Yatra and won the first prize at WE School Mashup Competition. The Startup was recognised by Economic Times as one of the top 20 innovative MSMEs in India. The United Nations Industrial Development Organisation (UNIDO) selected the project, where they evaluated the startups product/ technology based on Social Impact as well as a contribution towards Sustainable Development Goals in the agriculture/ irrigation field. Later, the Startup was selected by UNIDO for Accelerator Programme. Mr. Patel was also selected by MANAGE as an incubatee. He is also a CII i3 2013 finalist. He is also a Grantee under the RKVY RAFTAAR, DAC&FW, MoA&FW, Gol.

This patented technology is in line with the Atal Bhujal Yojana & Pradhan Mantri Krishi Sinchayee Yojana.

Mr. Patel aspires to make his Startup a world leader in Digital Irrigation.

Persistence, Persistence, Persistence (as challenges are at every stage) and building a Network

says Mr. Tarang Patel when asked about strengths, which played a key role in his journey. He faced challenges in Product development, getting financial assistance and Product acceptance- building user experience free for a limited time.

In Mr. Tarang Patel's words, his key driving force was in being an Entrepreneur.

I always wanted to be an entrepreneur but at the same time I wanted to bring in a unique product which was designed, developed and sold from idea stage

- Mr. Tarang Patel



Association With MANAGE and Key Takeaways

To him MANAGE stands as a great mentor for all the Startup training needs and his key takeaways are funding assistance, market linkages, Training/Mentoring.

I personally received aid in networking, legal operations and help in being a part of the Startup Ecosystem

- Mr. Tarang Patel

Vision as an Entrepreneur

His vision is to provide technology solutions for the existing problems in farm irrigation and handhold the farmers into the future through modular offering through digital mode. His vision over the next five years is to build on technologies, with IoT (Internet of Things) not just controlling the timing but also receiving sensor-based data from the farm.



Company Name

INTECH HARNESS PRIVATE LIMITED

Date of Incorporation

09 April 2018

Contact at Website URL

<https://intechharness.com/>

FaceBook

<https://www.facebook.com/Intech-Harness-107800854299621/>

Whatsapp No

09823112346

e-Mail

tarang@intechharness.com

Published by

Mrs. G. Jayalakshmi, IAS, Director General, National Institute of Agricultural Extension Management (MANAGE), Hyderabad

MANAGE-CIA Publication Team

Dr. Saravanan Raj, Director (Agricultural Extension), MANAGE & CEO, Centre for Innovation and Agripreneurship (CIA)

Dr. Sagar Deshmukh, Assistant Professor (ABM), MANAGE & Business Manager, Centre for Innovation and Agripreneurship (CIA)

Mrs. Gautami Kongara, Content Developer (RKVY RAFTAAR Project), Centre for Innovation and Agripreneurship (CIA), MANAGE

Citation

Saravanan Raj, Sagar Deshmukh, Gautami Kongara and Lakshmi Murthy (2020). Precision Agriculture: Automating Farm Irrigation, MANAGE-Centre for Innovation and Agripreneurship (CIA), National Institute of Agricultural Extension Management (MANAGE), Hyderabad, India.



Centre for Innovation and Agripreneurship (CIA)

(A Centre of Excellence in Agribusiness Incubation and Knowledge Partner of RKVY-RAFTAAR)

National Institute of Agricultural Extension Management (MANAGE)

(An organisation of the Ministry of Agriculture and Farmers Welfare, Government of India)

Hyderabad, Telangana, India

www.manage.gov.in

<http://cia.manage.gov.in>