



AGRICULTURAL TECHNOLOGY | VINFINET TECHNOLOGIES

Harvesting Technology



Sprouting Innovation

Vijay Bhaskar Reddy Dineppu believes *Kisan Raja* can reduce irrigation wastage, and help him boost Vinfinet Technologies to a Rs 1,000-crore firm.

By Amrita Roy

Mobile technologies have revolutionised sectors as diverse as communications, banking, digital entertainment and publishing. Now, a Bengaluru-based start-up is betting on the cellphone to revolutionise Indian agriculture. Led by its CEO Vijay Bhaskar Reddy Dineppu, Vinfinet Technologies has developed a GSM-enabled device that allows a farmer to remotely control his irrigation pump with their mobile or fixed line phone connection. The remote motor starter, aptly-named *Kisan Raja*, can be fitted to a pump of any make and is

activated via IVRS in local languages. What's more, it sends SMS alerts to the farmer's cellphone in case of power failure, disruptive water supply, theft or malfunction.

Because Dineppu is a farmer's son, he understood first-hand the challenges an Indian farmer faces every day: "Even the apparently simple task of watering a field is fraught with risks. Water is generally supplied at night and farms are usually located at some distance from the villages. Most farmers have to go out to their fields in the dark to switch on their motors at considerable risk—of

GROUND ACTION

India has a double whammy problem where irrigation is concerned. Agriculture continues to be monsoon dependent, and water scarcity has been rising rapidly. Agriculture, in fact, accounts for a predominant share of the total freshwater usage, and the widely-used flood irrigation method leads to lower yields and is labour intensive. Several companies, including Driptech, are attacking this problem head-on:

DRIPTECH: Driptech is an international water technologies company based in Silicon Valley with offices in Pune and Beijing. Through its proprietary manufacturing systems, Driptech claims to produce affordable irrigation systems for small-plot farmers in countries like India and China. The World Economic Forum selected Driptech as a 2012 Technology Pioneer, and the Tech Awards honoured Driptech as a Laureate in 2009 for its innovative use of technology benefiting humanity.

injury, snake bites and attacks by animals." Then, there's erratic power, and if pumps are left running when there is not enough water in the well, it damages the motor.

So, after working for 13 years as a product developer for companies like Intel and Cisco, this IIT Madras post graduate knew there was a huge potential, and need for affordable agricultural technology.

After coming on board at Vinfinet Technologies in August 2010, which was originally set up by a group of IIT Madras alumni to impart soft skills and technology training to the rural youth, Dineppu reoriented the company's focus to finding smart tech solutions for the farming sector. "Water and electricity are the two most scarce resources today. Nearly a third of the electricity produced in India is for the agricultural sector, and irrigation uses up more than 50 per cent of the fresh water supply in the country. Yet, our irrigation pumps run at only about 20-30 per cent efficiency. The rest is wasted," he says.

So, Dineppu and his team developed a prototype of *Kisan Raja* two years back, and launched a pilot study. While there are other self-starter or timer kits available in the market, what differentiates *Kisan Raja*, which is priced at ₹5,000 a unit (including SIM and a rechargeable battery), and went on sale last year, is its ability to send messages back to the farmer on the state of motor operation, says Dineppu.

The market potential for such devices is enormous, he adds. There are about 35 million agricultural pumps in use in India.

"Even if 20 per cent adopt *Kisan Raja* or other starter kits, that amounts to about seven million units. After accounting for competition, *Kisan Raja* is looking at a market of two million customers over a five year period."

Vinfinet has set itself an ambitious revenue target of ₹1,000 crore by 2017. With a dedicated sales team in place now, the company has built up a roster of around 450 dealers. Sales in recently-launched states like Maharashtra, Gujarat and Rajasthan have been encouraging. "We need to have at least 100 dealers in every state. By the end of this fiscal, we are aiming to sell between 12,000-15,000 units. And triple that number next year."

The company is in talk with investors, banks and credit companies to raise funding. "We need around ₹1.5 crore per state to build a distribution and after-sales service network." So far, he has had to depend on demonstrations at *krishi melas* and village fairs to advertise his product. The rest he leaves to word-of-mouth. But, he admits that a more comprehensive market outreach strategy has to be developed.

For now, Vinfinet is busy producing the 3,000 units they need to deliver in the next two months. Production costs should go down once orders go up, the company says. Vinfinet is also developing two more products to be sold under the *Kisan Raja* brand umbrella—a smart valve controller to regulate the flow of water into a field and a sensor-based irrigation system, which is expected to be ready within a year. **■**