

KrishiBOT- A smart Agriculture robot

APPLICATION

krishiBOT ensures uniform density in the field by sowing the seeds at optimum depth and pitch, applying adequate amount of fertilizers and covering the seed and fertilizer with the soil after sowing. It empowers growers and does tedious field task with precision, automation and optimization thus ensuring maximum farm potential.

COMPANY NAME

Terracraft Agritech Pvt Ltd

TECHNOLOGY READINESS LEVEL (TRL)

TRL: 7 (Deployable Stage)

INTELLECTUAL PROPERTY

IP filling in Progress

FOUNDER'S NAME

Vaibhav Thacker

PROBLEM ADDRESSED

Growers worldwide face serious challenges of workforce shortage, increasing production costs, and reducing crop yields, preventing them from meeting their full farm potential. As confirmed by our on-site research with 1000+ growers, factors that contribute to the drastic reduction in the Agri-outcome are:

1. Lack of mechanization.
2. Unavailability of labor during peak requirement.
3. Higher input costs due to wastage of seeds, fertilizers, etc during sowing/input on field.

Due to unavailability of machinery during peak requirement, growers rely heavily on labour. This results in unscientific practices.

ABOUT THE TECHNOLOGY

krishiBOT is equipped with the seeding mechanism that sows only one seed at a time at the pitch of 20 cm(for groundnut crop) and depth of 6 cm with the accuracy of over 95%. This helps reduce the amount of seeds that go into the field. It houses swappable battery technology that the growers can swap the batteries and replace them with the charged ones, thus ensuring 24 hour working machine. Parallel Seeding Lane: Using series of sensors and Machine Learning, krishiBOT moves in a perfectly straight line and automatically aligns itself if it deviates due to external factors.

FUNDS RAISED/ACHIEVEMENTS

- INR 25 Lakhs as equity investment from private investor
- INR 21.25 Lakhs from HDFC grant
- INR 6 lakhs as grant (NIDHI Prayas)
- INR 25 Lakhs as loan (converted to equity at later stage)
- INR 20 Lakhs Alleviate 2021 by Startup Karnataka

PRODUCT IMAGE



USP

- Optimization: Ensures only one seed is sown in the soil and adequate amount of fertilizer is given to the crop. This ensures uniformity. The accuracy of this system is over 95%.
- Automation: Performs all the operations using Machine Learning without depending on labour. The grower just navigates krishiBOT from a distance.
- Uniform seeding lane: Using series of sensors and Machine Learning, krishiBOT moves in a perfectly straight line and automatically aligns itself if it deviates due to external factors.
- Increases acreage of crop production: krishiBOT reduces the wastage of the farmland that happens due to current machinery (tractors, etc). krishiBOT has a zero radius steering system that helps growers cultivate every inch of their land.

END USERS/CUSTOMERS

- Small and Marginal farmers
- FPO's
- Agri Universities for their Research
- Custom Hiring Centre's or equivalents to rent machine to farmers.