

Solar Agribot - Bluetooth controlled - agriculture Robot □, Plough, Seed,water , pesticides

The **Solar Agribot** is an innovative, energy-efficient, Bluetooth-controlled agriculture robot designed to automate key farming tasks such as plowing, seed planting, watering, and pesticide spraying. Powered by solar energy, this robot provides an eco-friendly solution for small to medium-scale farming operations. The system is built on an Arduino microcontroller platform, which enables easy customization and scalability.

The robot integrates multiple subsystems:

1. **Ploughing Mechanism:** Equipped with a motorized plough, it can till the soil efficiently.
2. **Seeding Mechanism:** A seed dispenser ensures the precise planting of seeds at the right depth and spacing.
3. **Watering System:** A water pump is incorporated to irrigate the crops automatically, ensuring proper hydration.
4. **Pesticide Spraying:** A spraying unit is included for the targeted application of pesticides to protect crops from pests.

Control of the Agribot is facilitated via Bluetooth, allowing the farmer to remotely operate the robot using a smartphone or tablet. The system uses a Bluetooth module (HC-05) to establish communication between the robot and the user's device. The solar panel powers the entire system, reducing dependency on non-renewable energy sources and lowering operational costs.

The Arduino-based design makes the robot adaptable to different agricultural needs and allows for easy integration with future advancements, such as GPS for precision farming. This approach provides an affordable, sustainable, and practical solution to modernize agriculture, reducing manual labor and improving productivity while minimizing environmental impact.

Components used:

- Battery Power supply.
- Arduino UNO.
- Solar.
- Charging Circuit.
- RELAYS.
- HC-05 Bluetooth module.
- Ploughing Mechanism
- Seeding Mechanism
- Watering System
- Pesticide Spraying.

Software used:

- Embedded C Language.
- Arduino IDE.
- Express SCH for circuit design.