

Challenges 1. *Environmental Adaptation* – *Robust Design:* Using waterproof and heat-resistant materials for the robot's casing to protect internal components. *Sensor Accuracy and Calibration* – *Data Accuracy:* Ensuring sensors provide accurate readings of environmental parameters like temperature, humidity, soil moisture, etc. *Enhanced Power Solutions* – *Efficient Batteries:* Utilizing high-capacity and fast-charging batteries to extend operational time. *Environmental Factors* – *Heat and Humidity:* Greenhouses often have high humidity and temperatures, which can affect the electronics and mechanical parts of the robot. Solutions 1.2.3.2..3.–