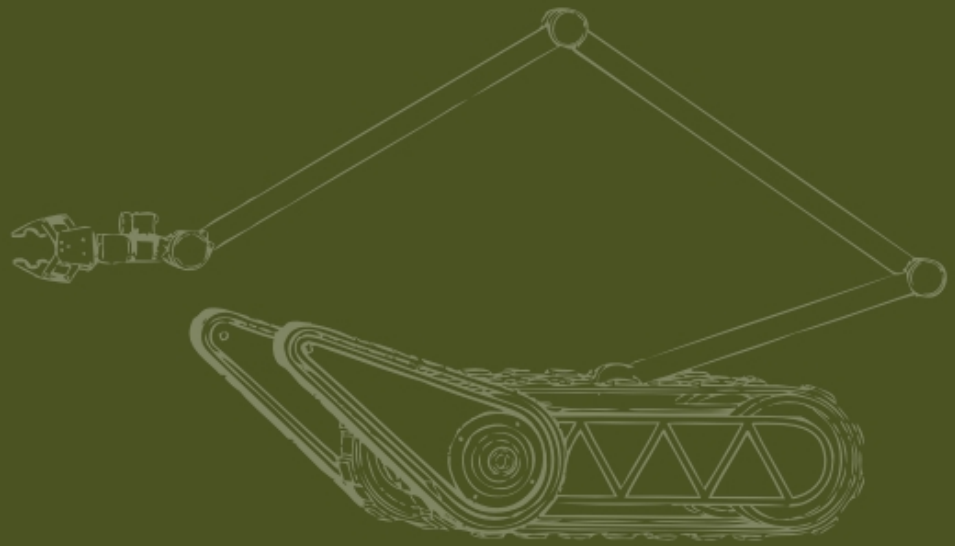
JANYU TECHNOLOGIES

JANYU TECHNOLOGIES is formed with the primary objective of developing effective solutions towards sustainable multi-planetary endeavours.

We specialize in robotic solutions that are identifiable under sectors of strategic importance for the nation.



ROV VARAHA

Product by:

JANYU TECHNOLOGIES PVT. LTD.

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ROV VARAHA

Introducing the Multi-Mission Man-Portable Tactical ROVs

Man-Portable Tactical ROVs are the need of the hour in several life critical operations. Varaha marks the dawn of a new era for surveillance/reconnaissance, bomb disposal, CBRN (Chemical, biological, radiological and nuclear) hazards and other dangerous missions while keeping soldiers and security personnel away from harm's way.

Designed and developed for ease of use, Varaha is ruggedized for Indian conditions. Indigenously developed for custom requirements, Varaha is the go-to platform for Law & Order maintenance, Defense, Internal Security and Industrial Safety.

ONE ROBOT, UNLIMITED POSSIBILITES

Surveillance/Reconnaissance & Securing Perimeters

Varaha helps in remotely examining vehicles, packages and buildings to distinguish deadly IEDs from harmless objects.

Explosive detection, Mine Mapping, Route Clearance

Safely investigates, spots and moves IEDs as it sweeps for threats on mission route/area. Maps an area/perimeter for bombs/IED/CBRN hazards.

Bomb Disposal / EOD

Safely disposes off roadside and car bombs/IEDs, unexploded weapons in constrained areas, buildings/constructions and cross country.

MULTI MISSION FLEXIBILITY

Varaha is designed to be carried by an individual, configured and deployed in a span of minutes.

GO-TO SOLUTION: MADE ON DEMAND

Varaha is designed on request by the forces. With the primary intent to remove human risk in EOD/IED handling, Varaha has taken its current form after rigorous end-user interactions. Varaha shall give remote access to suspicious/hazardous operations as follows.

Search for Mines/IEDs

Dispose IED: Dig, Cut, Neutralize

Price of Error: Life

MISSION & USER-CENTRIC SOLUTION

RUGGED & MISSION-READY

Mobile portable robot 24x7 mission ready

EXPANDABLE

Wide variety of interchangeable payloads that can be configured on-field as demanded by the mission and operator's preference.

EASY TO USE & INTELLIGENT

Portable gamepad controller combined with touch interface. Powered with JanYuintell software and user - assist.

DATA ANALYTICS & FUTURE-READINESS

Relays live Audio-Video to the gamepad controller along with vital sensor data for analytics as per the requirement. The analytics help the troops to predict, plan, prepare and perform better.

SWARM DEPLOYABLE

A group of Varahas (Swarm) working in mutually coordinated groups controlled by the user helps secure larger areas and offers endless possibilities.

KEY FEATURES

Varaha is a portable mobile platform with multi mission flexibility and unlimited customization.

- Man-portable Troop Leader Robot (~18 Kg)
  - All weather, Cross-country, Urban, Industry deployable
  - Stairs & Slopes(<45 deg)
  - Endurance: 4hrs @ Speed of 5.4 Km/hr
- Platform modular to fit multiple Explosive-Detection Sensors
  - Deep Search Metal Detector
  - Ground Penetration Radar
  - Thermal Camera
- Robotic Arm with modular end-effector (~ 9 kg)
  - Digger - dig soil to expose IEDs
  - Gripper- can lift upto 15 Kg
  - Cutter - cut barbed wires
- User Assist Package
  - Autonomous path retrace using GPS, IMU & Odometry
  - Autonomous configuration recovery
  - Autonomous waypoint navigation
  - Pan & zoom based control
- Touch-screen based UI on a smartphone/Tablet
- Optional Live Tracking & Monitoring feature

TECHNICAL SPECIFICATIONS

Parameter	Varaha ROV 1.0 (Current Configuration)
Company	Janyu Technologies Private Limited (Company by IIT Bombay Graduates)
Country of Origin	India
Weight	Platform: ~18 kg; Robotic Arm: ~9 kg Battery: ~5 kg
Dimensions	**Platform only:** 60cm*45cm*18cm
Power & Endurance	**Battery:** Li-ion Battery Pack **Endurance:** ~ 4 hrs on continuous operation
Traversing Capability	**Max. Speed:** ~ 8 Kph **Max. Incline:** ~ 60 degree incline **Terrain:** Mud, stones, creeks, Stairs
Robotic Arm	**Max. Extension:** 180 cm ; **Max. Payload:** 14.4 @ Close-in position **Dexterity:** 7 DOF
Sensors	**Navigation Camera:** 1 High Resolution Camera for Navigation 1 High Resolution Arm Camera **Explosive Detection:** Integrated Metal Detector

Parameter	Varaha ROV 1.0 (Current Configuration)
User Assistive Base/Control Station	- User Interface: Active User Assistive touch based Interface and Control - 3D Visualization of robot - Active User Warning System - Compatibility across multiple platforms
Range of Operation	500 metres, Extendible with Repeater
Autonomous/User Assist Features	• **Localization:** Multi-sensor fused enhanced relative positioning • **Retro-Traverse:** Communication failure; Low Battery; User Commanded (Retrace a path) • **Heading Hold:** The robot maintains a constant heading set by the user, automatically adjusting for bumps, debris and other obstacles. • **Selfrighting:** If the robot is flipped over, it automatically rights itself and continues the mission.