RES-NRSC-2022-005

Name of ISRO Centre/Unit

National Remote Sensing Centre, Hyderabad

Title of the research proposal

Development of Low cost Remotely operated platform for Bathymetry & water resource applications.

Name of Co PI from ISRO Centre/Unit

Shri. Satyendra S. Raghuwanshi

Contact Address of Co PI and e-mail id

AOASD/ASDMA
National Remote Sensing Centre, Hyderabad
e-mail: raghuwanshi_ss@gmail.com

Area of Research

Bathymetry applications

Summary of the proposed research and expected deliverables

Primary objective of this project is –

- Design & development of low cost remotely operated platform comprises customised rugged platform with propulsion, telemetry and control electronics.
- Mechanically stable platform with payload capacity upto 10 kg and speed upto 5 m/s shall be tested in open water bodies for its performance and endurance.
- For validating aerial bathymetry lidar and UAV bathymetry data, it is pre-requisite to have accurate bathymetry system with remotely operated platform to acquire the survey data over water body in optimum time for generating & evaluating results in fast manner.

Scope of the Work:

- developed remotely operated platform will be used with in-house developed bathymetry system of ASDMA/NRSC for bathymetry & water resource applications in open water bodies' deep upto 100 m.

Deliverables:

- Full-fledged, low cost, customized remotely operated surface platform to cater the requirement of bathymetry survey & water resource applications.
- Furthermore it will reduce the survey time and logistic efforts which are critical in bathymetry survey.
- When installed with in-house developed bathymetry system, can be used as in-situ bathymetry system for validating airborne/UAV bathymetry survey data.
- Also it will cater the requirements of ground truth bathymetry & water quality assessments for evaluating water quality parameters derived from satellite remote sensing techniques.