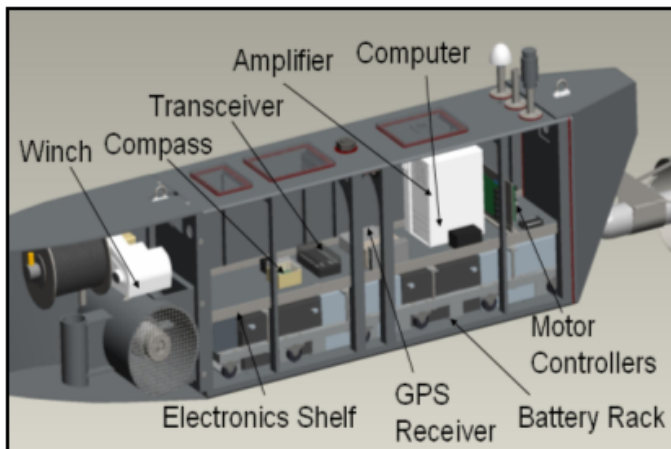


What is ONAV?

Ocean Navigating Autonomous Vehicle (ONAV) is an autonomous navigating vehicle which has been designed, developed, and patented by J³S of Austin, Texas. ONAV can automatically be commanded to locations to collect and transmit data for processing. J³S customizes the sensor suite, data collection and processing systems, and communication systems to provide the optimum system solution to meet the unique requirements of each customer.

- **A robust and flexible remote payload platform**, suitable for a wide variety of coordinated passive and active sensor operations.
- **An autonomous broad ocean surface vehicle**, capable of operations in conditions up to sea state 5.
- **A proven system**, having been deployed by the US Navy for operational precise impact location, operational telemetry relay and experimental coastal surveillance.



- ONAV is capable of carrying a variety of sensor packages
 - Acoustic
 - Electromagnetic
 - Environmental
 - Optical
- Sensor packages are tailored to provide custom solutions to the customer's problem



ONAV was developed by J³S, Inc. for the US Navy to provide a robust platform for various sensors packages.

Beneficial Uses of ONAV:

- **Hydrographic Surveys**
 - Low cost method to obtain volumetric data to produce hydrographic surveys
 - Provides a better understanding of sediment challenges in lakes and allows for a more defined plan for dredging and removal of silt
- **Water Quality Sampling**
 - On board sampler allows for autonomous sampling of Ph levels, temperature, conductivity, dissolved oxygen (DO) levels
- **Dam Design and Rehabilitation**
 - Assist in dam safety inspections and security operations surveillance
 - Provide data to aid in flood studies and computer modeling
- **Public Service**
 - Assists in locating underwater hazards to navigation and recovery operations
- **Security Operations Configuration**
 - Passive Sonar (sonobuoy head)
 - Imaging Sonar (side-scan sonar)
 - Variety of sensors above or below water

J³S, Inc.

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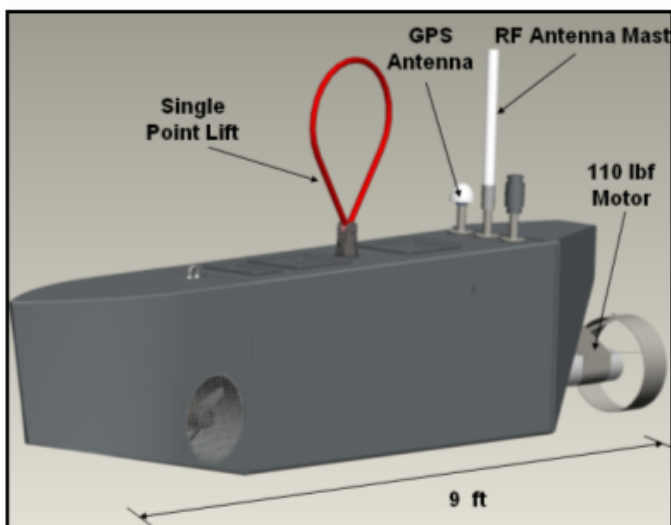
ONAV

Low-Cost, Unmanned, Surface Sensor Platform

ONAV Capabilities:

- **Control Modes**
 - ❑ Constant heading and position hold
 - ❑ Scripted way point navigation
 - ❑ RF control capability (can be remotely operated by human operator)
- **Operating endurance**
 - ❑ Station keeping endurance of 12-16 hours
 - ❑ Transit endurance range of approximately 20 nautical miles

- **Data Collection and Transmission**
 - ❑ Onboard sensor data storage
 - ❑ Real time status and position
 - ❑ Wireless communication capabilities
- **Mission System options**
 - ❑ Event based
 - ❑ Scripted navigation and payload interaction
 - ❑ Linking multiple vehicles for data to be post-processed as an array



ONAV is equipped with a Global Positioning System (GPS) and a RF antenna to aid in navigation and maneuverability

ONAV maintains a low profile in the water and can maintain a speed of 4-6 knots

J³S, Inc:

J³S, Inc. based in Austin, Texas since November 2000, is a privately held, woman owned small business which provides management and engineering services to a variety of government and business customers.

Features

- Autonomous, mobile collection platforms that is easy to transport and deploy
- J3S can customize sensor package to meet data collection requirements of the customer
- Dimensional information : 15"X 24" X9', weight - 600 lbs
- Powered by gel-cell sealed batteries (electric propulsion)
- Flexible standards based instrumentation interfaces, data collection, data storage and communication systems
- J3S tailors a vehicle to customer requirements and delivers a complete system with on-site training and warranty repair
- Operational vehicle fielded to US Navy in August 2005
- Flexible command and control modes

Benefits

- ONAV can be easily transported on a recreational boat trailer with minor modifications and launched from public boat ramp
- On board processing with built-in mission capabilities are a significant enhancement
- ONAV is capable of carrying an additional payloads
- Stable reliable power source, that is easily recharged
- Low cost versatile sensor platform with demonstrated reliability and flexibility to support user requirements
- ONAV customers are assured of a fully operational system and trained staff to utilize this exceptional autonomous vehicle
- Timely warranty repairs to ensure smooth operational use
- ONAV technology is a proven success