

# MAKI LAB.

## [ Light for the Sea, Adventures for the Robots ]

Center for Integrated Underwater Observation Technology

Underwater Platform Systems

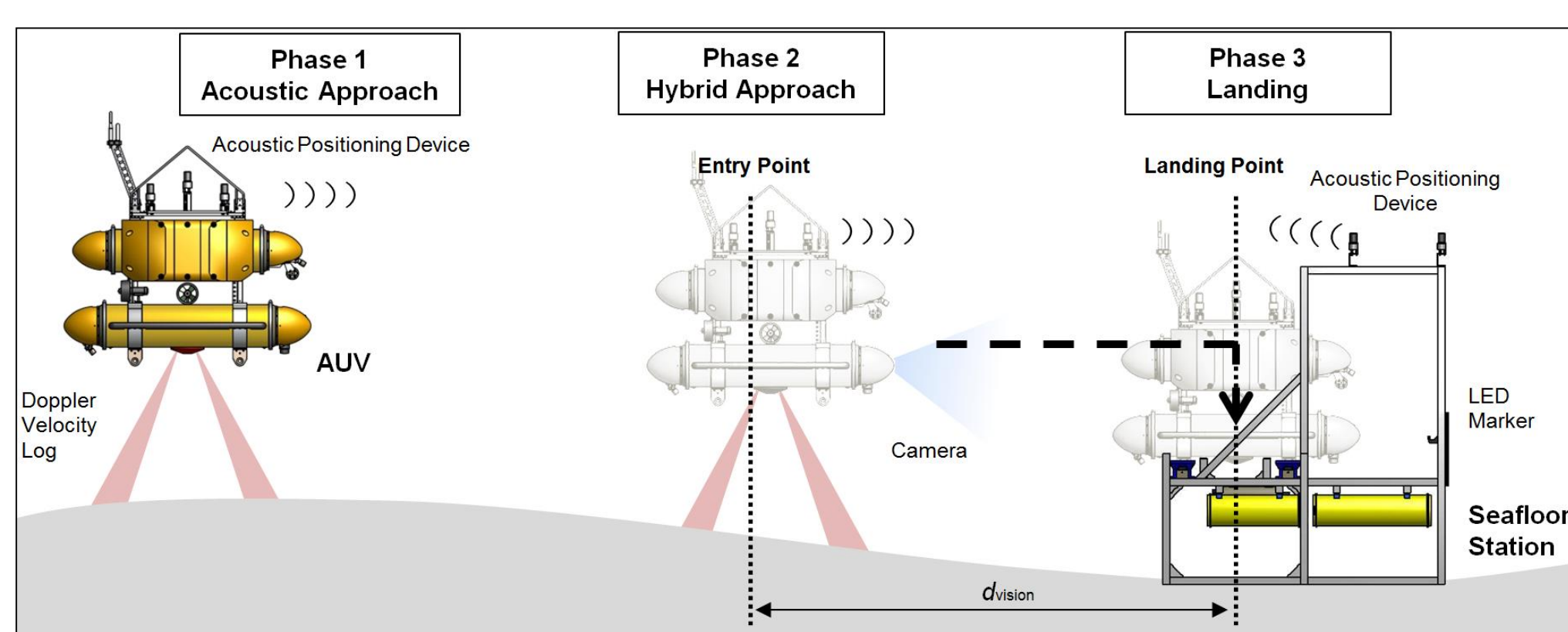
Graduate School of Frontier Sciences

Department of Ocean Technology, Policy and Environment

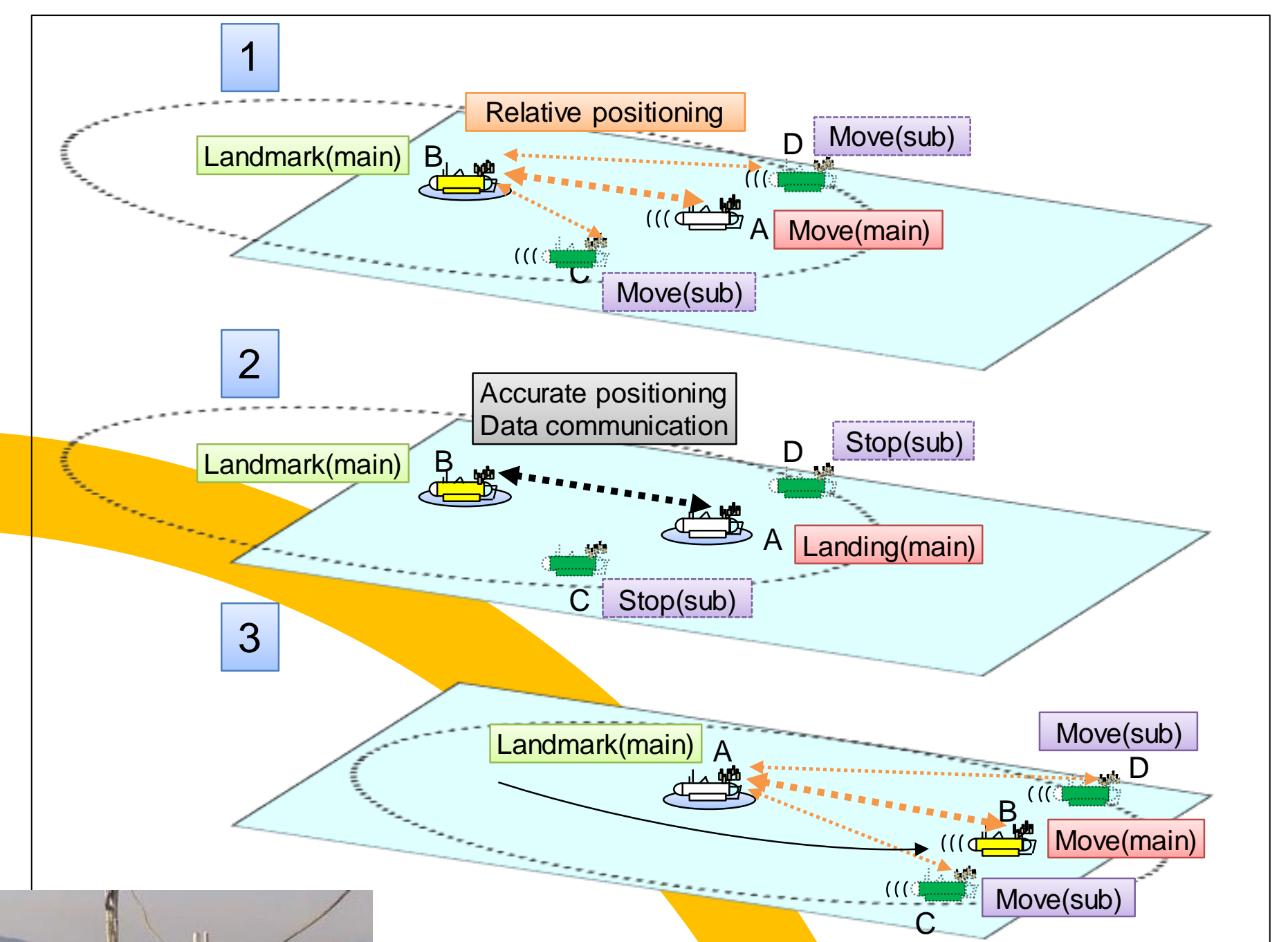
<http://makilab.iis.u-tokyo.ac.jp/>

### Future Platform Systems for Underwater Observation

We are developing new systems for underwater observation by means of latest technologies of robotics and informatics. These systems will realize wide-area, high-accuracy, and long-term observation through collaboration of multiple autonomous agents like autonomous underwater vehicles (AUVs).



**Long-term Observation**

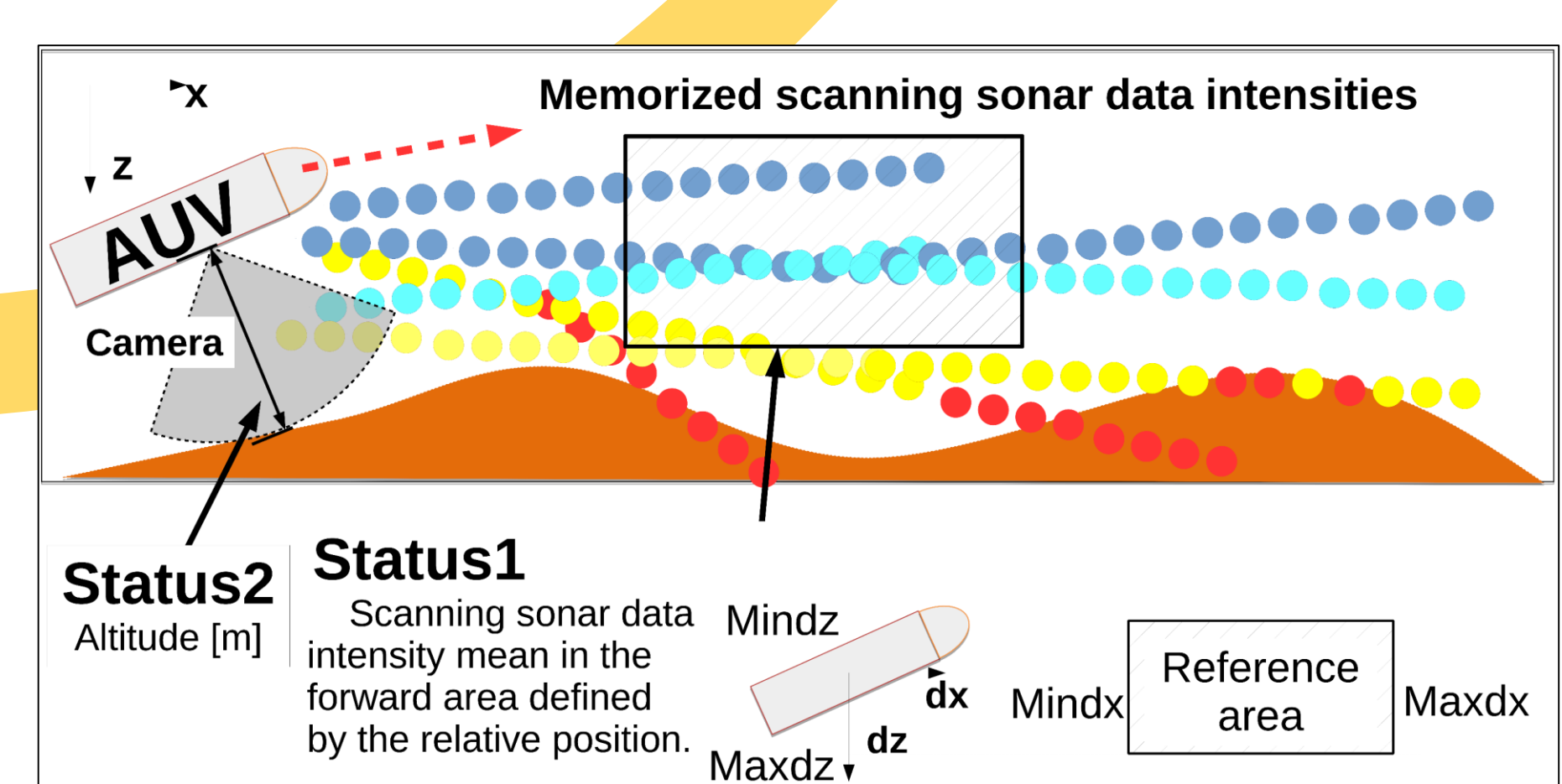


**Cooperative survey method by alternating landmark navigation**

**Multiple AUVs**

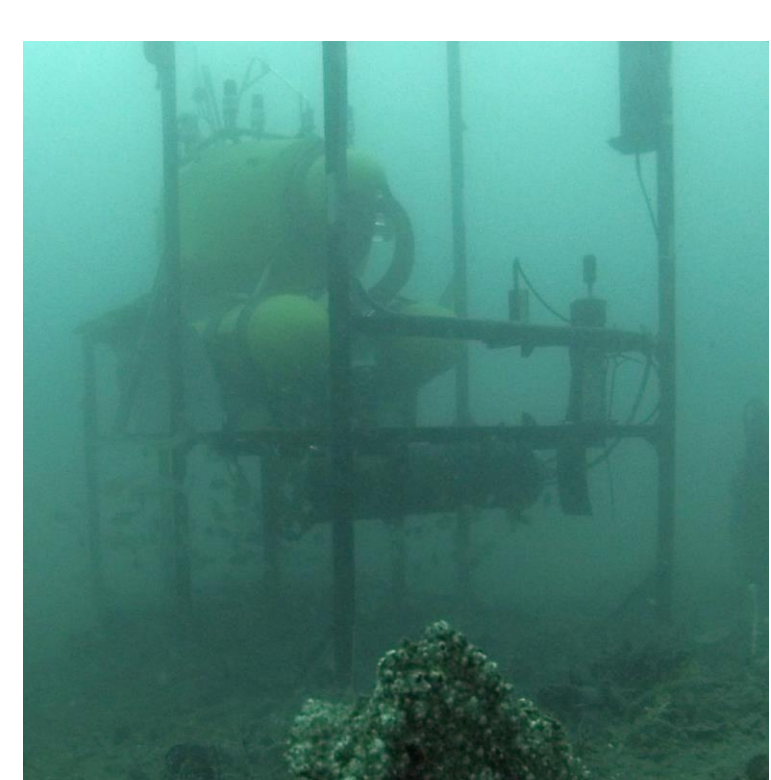
**High speed terrain tracking method using reinforcement learning**

**High Speed Terrain Tracking AUV**

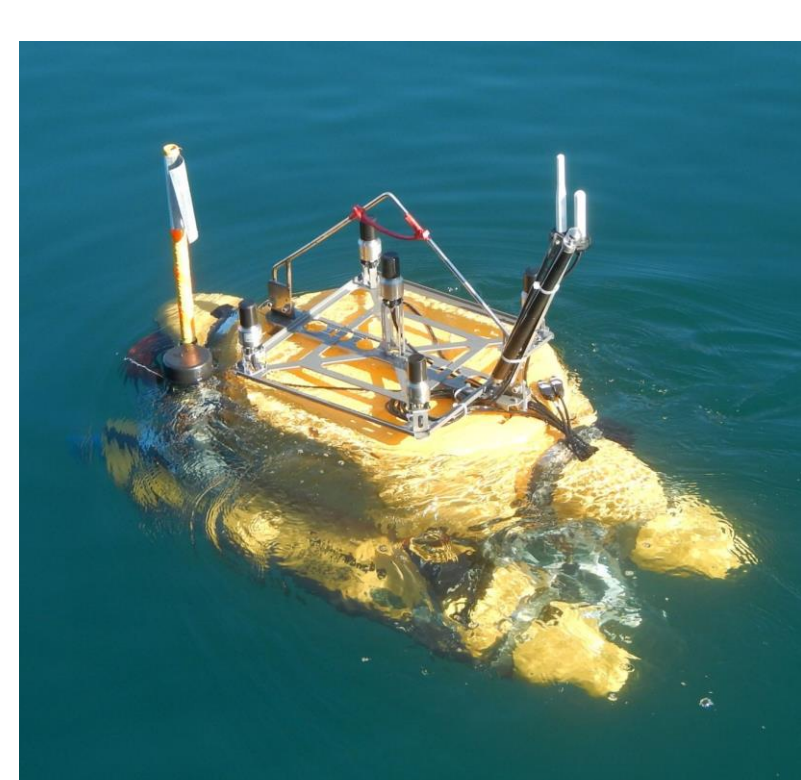


**Autonomous docking based on acoustic and visual navigation**

**In-situ biopsy system of deep sea top predators using seafloor station**



Station Type B (Tri-TON 2 docked)



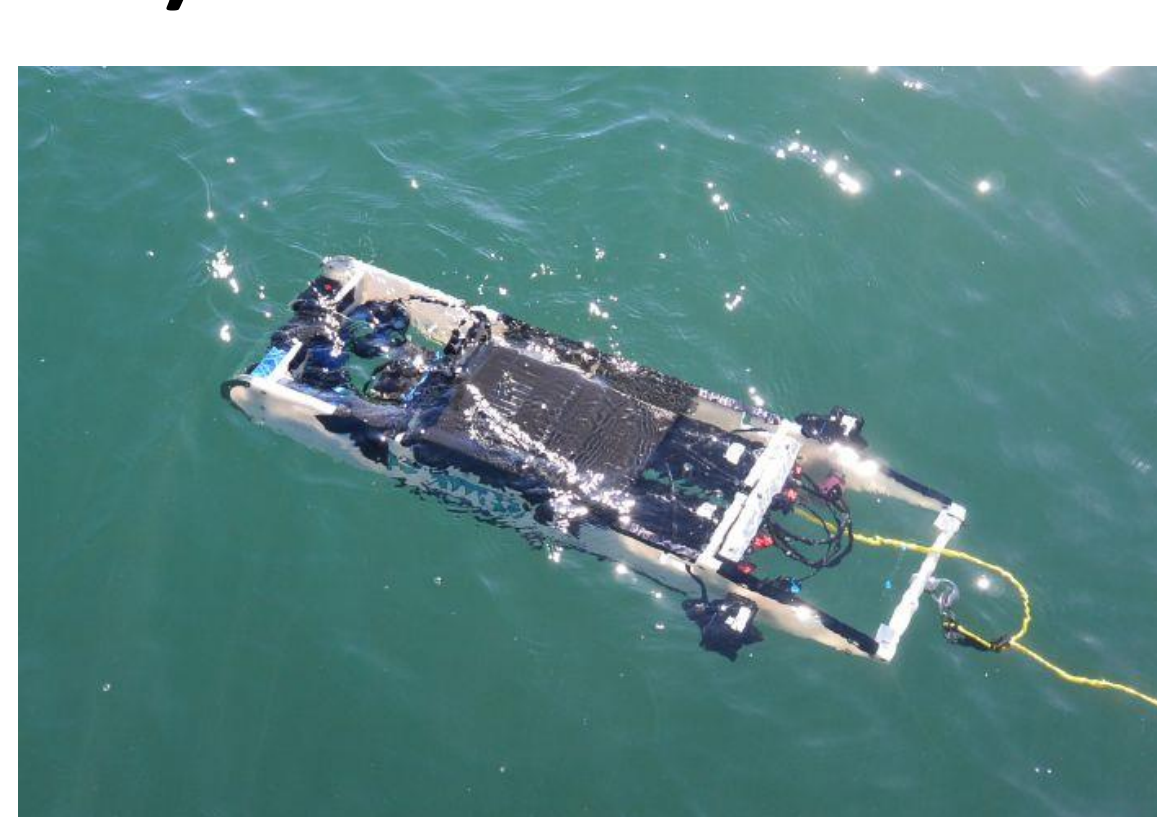
AUV Tri-TON 2



AUV Tri-TON



Station Type C



AUV HATTORI



AUV Tri-Dog 1

