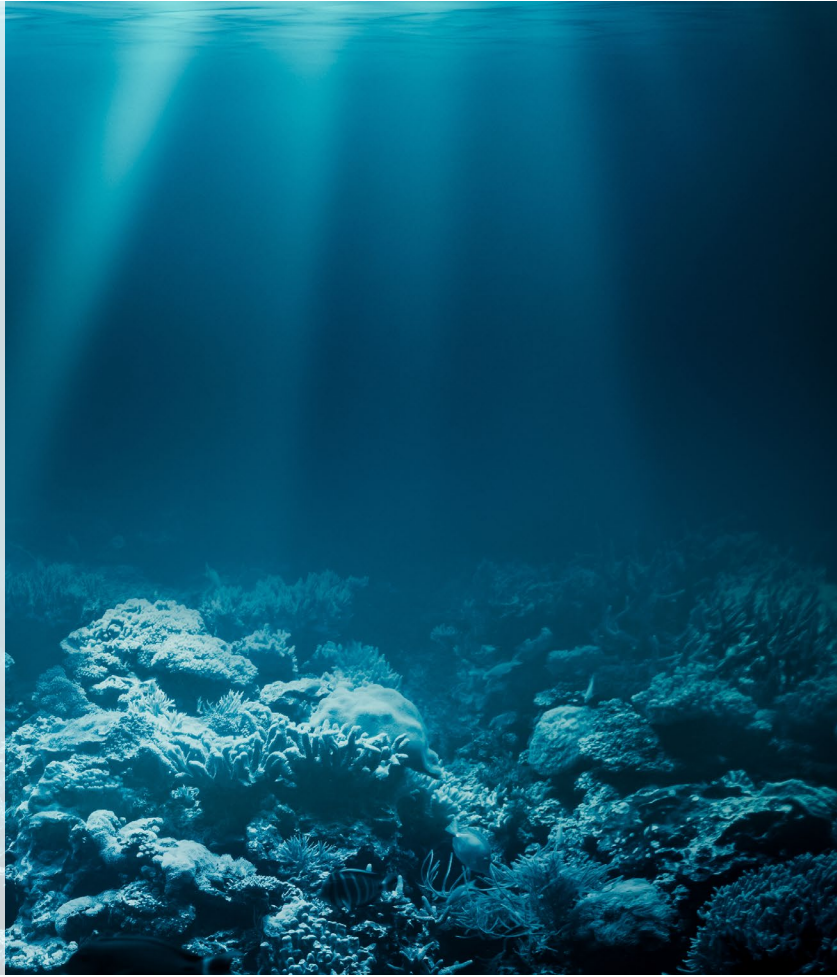




STRIDR[®]

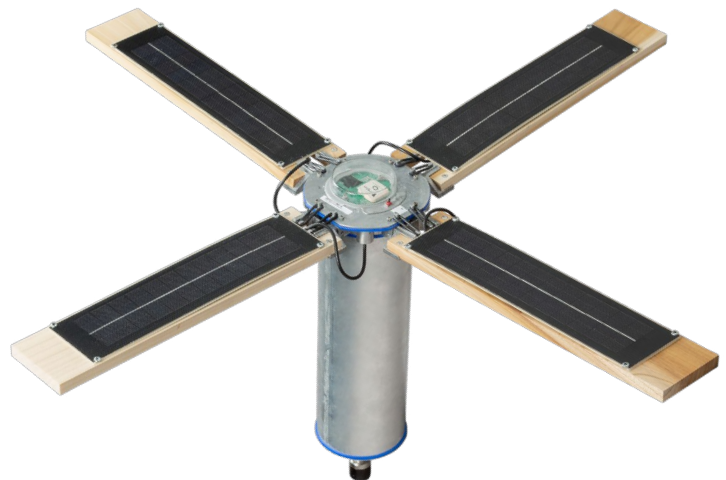
Sea-Trekking Rechargeable Instrumented DRifter



STRIDR[®] is a small, low-cost Lagrangian drifter with a standard suite of sensors including GPS, a 10-DOF inertial measurement unit, a microphone, and temperature and pressure sensors. Optional sensors include a sky-pointing camera, a hydrophone, a radio frequency detector, and a conductivity sensor. STRIDR can accommodate many other types of sensors.

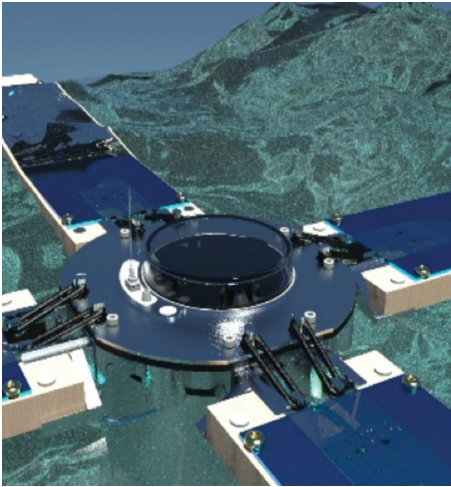
Key Features

- Low size, weight, power, and cost
- Flexible design to host multiple sensors simultaneously
- Solar panels that enhance float life
- Iridium-certified design
- Wi-Fi update capable
- Minimal environmental impact
- Five scuttle modes

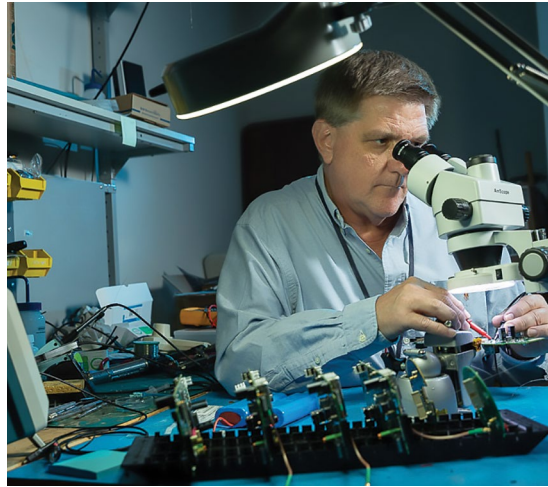


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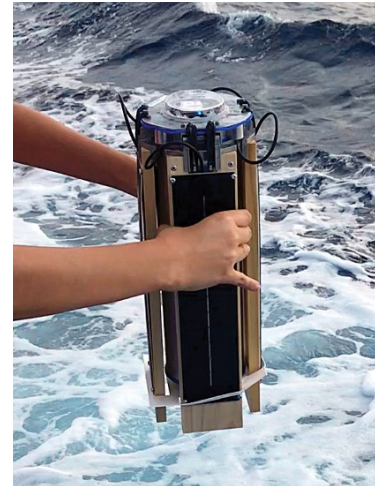




Discovery — application of scientific investigation



Development — combination of government and internal efforts



Delivery — to National Academy of Science

Technical Summary

With its small size and rugged construction, STRIDR is easily deployed from a variety of platforms. Although STRIDR is designed to be expendable and minimize environmental impact, including elimination of almost all plastic, it incorporates several design features to extend its lifespan. A lithium polymer battery is recharged by four solar panels attached to STRIDR's stabilizing float arms. The battery extends float life and allows bursts of high-power processing, enabling a broad and adaptable mission set.

Operational Capabilities

STRIDR's on-board processing produces environmental measurements including float location and surface current estimates, wave statistics, atmospheric and ocean surface temperature, barometric pressure, wind speed, humidity, and cloud cover. STRIDR's Linux-based operating system runs on a low-power ARM processor and includes a Python-based analysis environment, allowing for the development and deployment of additional processing algorithms using modern development tools and APIs.

Development & Applications

- **Development:** STRIDR was developed for DARPA's Ocean of Things project which focuses on developing affordable, multi-sensor floats deployable at large scales for high-resolution sensing at the ocean surface. STRIDR prototypes have been tested at scale at TRL7/MRL7. STRIDR will be available for purchase by 3Q FY20.
- **Government Applications:** STRIDR is important to government applications that require a low-cost solution to remote sensing, including applications for the U.S. Navy, the U.S. Coast Guard, DARPA, and NOAA.
- **Commercial Applications:** STRIDR provides commercial entities a highly deployable, reliable, affordable float capable of providing a wide range of relevant, real-time environmental measurements over distance.



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