

**COMMERCIALIZATION OPPORTUNITY**

**Dipping Bioluminescent Profiler**

**Date of Submission to CfMSS:** January 12, 2007

**Owner of Technology:** SPAWAR Systems Center, San Diego

The **Center for Maritime Systems & Security (CfMSS)** presents a commercialization opportunity for a Dipping Bioluminescent Profiler (DBP) technology, developed at Space and Naval Warfare Systems Center, San Diego.

**The Technology**

Few studies have attempted to measure the changes in coastal and oceanic bioluminescence over any appreciable time scale, due to instrument and platform limitations, and the overall cost. The Dipping Bioluminescent Profiler is the first portable instrument for measuring bioluminescence, seawater clarity, salinity, and temperature all at the same time. Sensors are lowered into the water using a predetermined length of cable which electronically transmits the sensor data back to the user, the entire process taking only 1-2 minutes. The system can be deployed from helicopter, boat, autonomous buoy, or other platforms; and can also be configured to collect and transmit data on a predetermined schedule.

**Current Market Problems**

- Non-autonomous methods that require ship support
- Current technologies are large and expensive to manufacture
- Deployment of instruments is complex and requires multiple people
- Powered by AC source vs. mobile, small, rechargeable battery
- Current optical instruments require frequent cleaning due to time in water

**Key Benefits**

- Provides autonomous, automated data collection
- Measures 4 variables simultaneously in less than 2 minutes
- Cheaper to make and use, and is smaller than competing technologies
- Simple to deploy, as well as start and stop data collection via remote control
- Uses rechargeable batteries
- Optics remain clean due to the relatively short time spent in the water

**Development Status**

- Field tested, system level prototype
- \$1.2 million R & D expenditure to date
- 5 years of development

For more information regarding this technology, please contact Dr. Stephen Lieberman at (619) 553-2778 or email t2@spawar.navy.mil

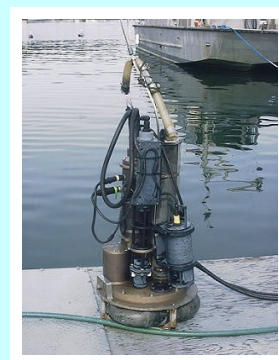
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Technology Information Packet (TIP) form: Rev. 9 Jan 2007

**Current Technologies**

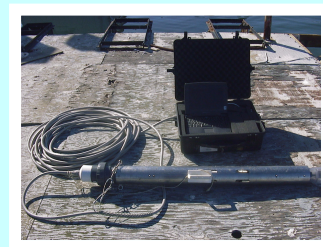


The HIDEX profiling bathyphotometer used for measuring bioluminescence



Typical bathyphotometer used for bioluminescence profiling

**Dipping Bioluminescent Profiler (DBP)**



SPAWAR's Dipping Bioluminescent Profiler

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