# **AUTOMATED UNDERWAY PROFILING**



### **Advancing Scientific Data Collection**















### James Walton Regional Sales Manager, Americas





AML provides ocean sensing solutions. We help our customers remove the unpredictability economic and technical - from their survey operations.



## We Make it Easy

- Family of oceanographic instruments and sensors
  - ot Se

• UV biofouling control – keep sensors and other subsea equipment performing for extended periods of time.



- Sensors are interchangeable with
- other instruments
- Sensor heads are calibrated
- independently





















- We've helped Principal Investigators from organizations such as CHS, NOAA, NSCC, Bigelow Labs, OSU, SHOM, Ifremer, and PRIC publish high
  - impact papers.







**Oregon State University** 









## **MVP-200 operating in Seastate 7**





# **BECOMING A THOUGHT LEADER**



Use static profilers to inefficiently collect sporadic and incomplete data sets.

### **Difficult to Access**

Withncingutation as a thought leader, it will continue to be difficult to access funding.



### Typical Approach

### **Publish Paper**

Without comprehensive data sets, it will be nearly impossible to publish anything groundbreaking or impactful.

### **Go Unnoticed**

Without an impactful paper, you'll go unnoticed and will have a tough time advancing your career.

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# TYPICAL CHALLENGES



### Collecting High Density, Multiparameter Data

Are you unable to obtain sufficiently dense, multiparameter profile data?

Are you unable to get a true representation of the full water column?

**AML** Oceanographic



### Collecting Full Water Column Data



### Producing Ground-Breaking Studies

Is it difficult for you to produce impactful and noticeable studies?



## TRADITIONAL DATA COLLECTION METHODS

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### **XBTs**

XBTs are single-use, only capable of measuring one parameter, and add unnecessary logistics and inventory management.



### **STATIC PROFILING**

Traditional stop-and-start vertical profiling methods collect data sporadically and at the cost of survey time.

### **NON-VERTICAL PROFILING**

Non-vertical profiling methods are not representative of water column behavior.



## TRADITIONAL CTD DATA COLLECTION PROCESS 10









**Collect High Density Multiparameter Data** 

> ...without consuming vessel time ...with minimal crew involvement ...regardless of oceanography conditions!







**Produce Ground-Breaking Studies** 



**Collect Full Water Column Data** 



## **ALTERNATIVE CTD DATA COLLECTION PROCESS**

While cruising between waypoints at up to 12 knots ... with no additional crew requirement





	MVP	Oth
Real-time Data		
High Density Data		
Continuous Profiling		
Full Water Column Coverage		
Multiparameter Data		
Military Grade		
Automated Bottom Tracking		







# **BECOMING A THOUGHT LEADER**

### **Collect High Density Data**

Use MVP to collect the most comprehensive data sets possible while saving time and money.

### **Easier Access to Funding**

By becoming a thought leader in your field of study, you will have easier access to more funding.



### With MVP

3

 $\mathbf{X}$ 

### **Publish High Impact Paper**

Use the ample data collected to write a paper that gets noticed.

### **Become Thought Leader**

By consistently publishing impactful, credible papers, you can establish yourself as a thought leader.

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**Research Scientist at NOAA** 

### Background

**Customer:** Research Scientist at NOAA.

**Objective:** Surveying the Loop Current in the Gulf of Mexico during hurricane season.

### **Critical Problem**

Efficiently collecting accurate and dense data-sets to map where and when a hurricane will hit land.





### **Reasons for Problem**

Water depth in area is 2,000-4,000m deep, a single cast with a static profiler takes over two hours.

Oceanography conditions within the Loop Current is highly dynamic – frequent profiles are required to get accurate reading of its state.

### **Required Capabilities**

A solution that would enable them to provide accurate data to officials quickly, so that hurricane paths could be determined in enough time to evacuate areas in danger.













Chief Scientist at NOAA

### We Provided...

MVP - A continuous, real-time, underway profiling solution.

### **Results**

First survey: provided accurate results very quickly  $\rightarrow$  all inhabitants of the impacted areas successfully evacuated.

MVPs are now considered mission critical equipment for all the vessels used for Loop Current surveys.



## STEPS TO ACQUIRING MVP We Make it Easy

### NOW

You understand the clear benefits of MVP, and have a vision of how it will help you succeed.

### **TECHNICAL CONSULTATION**

We develop an understanding of your situation in order to propose the best solution for your specific needs.

2



SECURE FUNDING We provide support throughout the

3

procurement process.

### **INSTALLATION + TRAINING**

We supervise installation of the MVP on your vessel and provide training to your staff to ensure the correct use of your system.

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## **REQUEST TECHNICAL CONSULTATION**

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### Contact