

Industry Day for ONR BAA 10-019

Solicitation Number: Industry Day ONR BAA 10-019

Agency: Department of the Navy

Office: Office of Naval Research

Location: ONR

Solicitation Number: **Notice Type:**

Industry Day ONR BAA 10-019 Special Notice

Synopsis:

The posting date of the above referenced BAA is to be determined (TBD)

Environmental and Ship Motion Forecasting Background:

The Seabasing concept has been developed in order to enable Operational Maneuver from the Sea (OMFTS), the Marine Corps' warfare doctrine where all logistics support will come from the sea, rather than from supply points ashore. This offshore logistics presence creates a number of challenges associated with the transfer of material between ships in order to facilitate and sustain shoreside amphibious operations; one of these challenges is the mitigation of delays in material transfer caused by excessive ship motion. ONR currently has ship-specific, motion-mitigating ramp and crane systems in development, but for general operation of legacy equipment an alternate approach is desired.

The ESMF program seeks to provide sea-based forces with environmental and ship motion forecasting as input to the Common Operation Tactical Picture (COTP), in order to forecast windows of opportunity for inter/intraship material and personnel movement. The technical objective is to predict specific wind and waves and the resulting ship motions up to 30 seconds in the future, and identify critical environmental conditions in advance of up to 20 minutes for go/no-go decisions for procedures such as crane ops and cargo handling. Enabling the warfighter to make more informed decisions for onboard and ship-to-ship operations is a critical capability for the Sea Basing environment, and the goal of this program.

Environmental and Ship Motion Forecasting (ESMF) Program

The overall implementation of the ESMF program will consist of the following:

- Integration of a sensor system to provide real-time estimates of the temporal and spatial wave and wind fields. Properties of interest include wind speed and direction, standard wave parameters (H_s, T_p), directional wave spectrum, and complete phase-resolved wavefield measurements.
- Leveraged real-time data to accurately predict future wind and wave propagation.

- Combined wave and wind predictions and ship-motion predictions using data measurements and/or physics-based modeling.
- Visual aids and enhanced decision making capability provided to shipboard operators.

ONR seeks to make targeted investments in each of these focus areas, with the goal to develop and demonstrate a flexible, open-architecture “system-of-systems”, capable of integrating various measurements, models, predictions, and technologies into an operator guidance/decision support system, which would result in an integrated system that could be demonstrated at a Technology Readiness Level (TRL) of 6 by the end of the program (FY15) in order to transition to a Navy or Marine Corps acquisition program. TRL 6 is defined as a system/subsystem model or prototype demonstration in a relevant environment, which can include at-sea testing or a simulated operational environment.

The industry day seeks to allow the government to both identify existing industry products related to the focus areas listed above as well as new, alternative, innovative technologies that may exist; these technologies should take 5 years or less to mature to a TRL level of 6.

ONRs presentations describing the ESMF program, will be in the morning of May 3rd. Optional, individual meetings are to be held between industry and government, over the afternoon of 3rd and all day on the 4th. Individual presentations will last no longer then 30 minutes, first come- first served basis and time-slots will be limited; please include a copy of your presentation and any applicable data sheets and drawings of your product on CD at the time of the meeting.

Details regarding Industry Day can be found at:

<https://secure.onr.navy.mil/events/regdetail.asp?cid=643>

Registration shall be completed by 4:00 p.m. (Eastern) on 27 April 2010. If requested attendance exceeds the capacity of the conference room, it will be necessary to limit attendance of personnel from each organization. All expenses associated with attendance will be the responsibility of the participant(s).

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