Mini Robotic-Dredge (MR-D)

Project Summary: The MR-D is a remotely operated mini dredging plant that is capable of dredging in the surf zone or in deeper water approaching the shore to establish or maintain lighterage shipping lanes through offshore shoals, deepening shipping channels for deep draft vessels or deepening berths at port facilities. Applications of primary interest include port openings where conditions are not sufficient to allow for vessel berthing and unloading. To achieve the project's goal an existing mini-dredge system will be evaluated and modified for tailorable military applications based on operational requirements and site characteristics. For example, the production capacity would be easily configurable to achieve a given navigation depth while minimizing time on site in a clearance operation. The appropriate cutter head would be selected and installed for the agitation method required and the dredging operation would be monitored and observed by on board sensors. During site cleanup after a spill or detection of contaminant, the dredging plant would be configured to minimize surface disturbance and resuspension of contaminated materials during removal. The pumped materials would then be contained and treated for proper disposal and site remediation.

Benefit: The overall goal of this project is to develop an organic expeditionary dredging capability to support improved access to the shore to reduce deployment timelines during the conduct of Anti-Access/Anti-Denial (A2/AD and Humanitarian Assistance/Disaster Relief (HA/DR) operations.

Duration of project: FY18-FY20

Participants: U.S. Army Corps of Engineers-Engineer Research and Development Center (USACE-ERDC)

Project advocacy (funding or otherwise): Army Engineer Research and Development Center (ERDC)