**VTS Radar for Small Vessel Detection**

Funding agency: Dept. of Homeland Security

Partners: Stevens Institute of Technology (Lead)

Period of Performance: 12/18/19-6/30/20

Total budget: $192,473

Project summary

One of the most valuable infrastructures in the United States is its Marine Transportation System (MTS). The ease of moving cargo and people within the MTS and beyond fuels the nation’s economy. Protecting the MTS is a necessary requirement due to its economic value as well as increasing threats from illegal smuggling, immigration, illegal fishing, oil spills, and, in some parts of the world, piracy. Moreover, the control of vessel traffic is often correlated to environmental protection issues, since vessels carrying dangerous goods (e.g., oil-tankers) can cause catastrophic environmental disasters. There exist various surveillance systems for the maritime domain and one of them is a Vessel Traffic Service (VTS) system to collect, process, and disseminate information on the marine operating environment and maritime vessel traffic in major U.S. ports and waterways. The existing microwave radars operated by the United States Coast Guard (USCG) within the VTS system do not provide reliable detection of small vessels, which can pose a threat to the MTS.

In this project, we propose to travel and meet with Coast Guard personnel at the twelve Vessel Traffic Service centers as well as the USCG Navigation Center and develop a needs analysis for the VTS centers with respect to radar remote sensing. We will deliver a Request for Information (RFI) document that will allow the USCG to evaluate the state of the art in radar for small vessel detection while also meeting the VTS mission to monitor and advise vessels within the navigational waterways.