

## A Centralized Architecture for Cooperative Air-Sea Vehicles Using UAV-USV

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**Abstract :** This paper deals with the problem of monitoring and cleaning dirty zones of oceans using unmanned vehicles. We present a centralized cooperative architecture for unmanned aerial vehicles (UAVs) to monitor ocean regions and clean dirty zones with the help of unmanned surface vehicles (USVs). Due to the rapid deployment of these unmanned vehicles, it is convenient to use them in oceanic regions where the water pollution zones are generally unknown. In order to optimize this process, our solution aims to detect and reduce the pollution level of the ocean zones while taking into account the problem of fault tolerance related to these vehicles.

**Keywords :** centralized architecture, fault tolerance, UAV, USV

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