The CO3-AUVs project

A EC funded-project targeting the execution of joint multiple robot-human operations at sea.

THE MEDUSA VEHICLES

Autonomous semi-submersible marine robots developed at IST

Mission 1- HARBOUR PATROLLING

Mission performed at the “PARQUE EXPO” site, Lisbon

Mission 2- NETWORKED MOTION CONTROL

Mission in Sesimbra

MEDUSA TRIALS AT THE “PARQUE EXPO” OF LISBON AND IN SESIMBRA

During the months of July and August, 2011 an intensive series of tests took place in Portugal, in the scope of the EC CO3-AUVs project. The tests were carried out by ISR/IST (PT) and ISME (IT).

The ISR/IST and ISME teams at the “PARQUE EXPO” site, Lisbon, Portugal

Together, the two teams carried out a “harbour patrolling” mission aimed at the detection of intruders. The algorithms of ISME were seamlessly implemented using the open architectures of the MEDUSAS.

The MEDUSA class of autonomous semi-submersible marine vehicles

Developed at ISR-IST, the MEDUSA vehicles are equipped with navigation, guidance, and control systems for single and multiple cooperative vehicle operations at sea. Inter-vehicle and vehicle/underwater target communications are enabled via Wi-Fi and acoustic modem networks.

http://www.co3-auvs.org
MISSION 1 - HARBOUR PATROLLING TRIALS AT THE “PARQUE EXPO” (ISR/IST AND ISME)

VISITING RESEARCHERS: GIANLUCA ANTONELLI AND ALESSANDRO MARINO

Harbour patrolling with 3 MEDUSA vehicles.

Plot of actual vehicle trajectories (red, white, and yellow). Virtual obstacles and a small autonomous surface vehicle (intruder) were included to assess the performance of the algorithms for multiple vehicle harbour patrolling.
Cooperative Control
with 3 MEDUSA vehicles.

The tests showed the efficacy of the algorithms and distributed software/hardware architectures developed for network motion control.

Representative tests included cooperative path following with different vehicle formations.

http://www.youtube.com/watch?v=e2NqeYN4ayA