2013 Isaac Peral y Caballero AUV (Submarine) Project

FUTURE VEHICLES & ENTREPRENEURS (FUVE)

School of Naval Engineering
(Escuela Técnica Superior de Ingenieros Navales)
FUVE (Future Vehicles and Entrepreneurs) is an association of School of Naval Engineering students, although some of its members are studying engineering at other UPM schools and colleges.

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This prototype was what inspired our dream to build a submarine wholly designed by students.

FUVE entered the Isaac Peral y Caballero submarine. FUVE was the first Spanish and European Union team to measure itself against the world’s best universities and qualified for the semi-finals. With this submarine, FUVE students set out to do something completely new and, until then, unheard of in the competition...

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The submarine has many applications:

COASTGUARD SERVICE

The onboard computer can be configured for coastal surveillance with the submersible operating as a lookout station. If it detects a threat, it can transmit live images of the intercepted target.

SUBAQUATIC RESEARCH

By collecting samples from the sea floor, tracking animal migrations or charting sand beds, it is a potential research tool for oceanographers.

STRUCTURE MAINTENANCE

Combined with the submarine’s robotic arm, the subaquatic vision system is a valuable tool for locating and repairing damage to the structure or hulls of large vessels.

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The next challenge now is the 2013 Isaac Peral y Caballero AUV Project: the part-wise construction of one of the most advanced student-built experimental submersible in the world.

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CONVOY PROTECTION
The submarine carries two, 15 cm and 300 g torpedoes, guided by the same technology as the robot. The torpedoes can be configured to operate as a shield for ships.

LOCATION OF WRECKS
Its inertial navigation system and depth meter make the submarine a perfect ally for prolonged searches of the seabed.

SUBMARINE REPAIRS
Thanks to its integrated guidance system, the submarine can track shapes, like subaquatic cables and oil or gas pipelines, on the seabed and help with their repair.

THIS SUBMARINE IS THE EMBODIMENT OF THE ENTHUSIASM, DEDICATION, CONSTANCY AND PROFESSIONALISM OF A GROUP OF UNIVERSIDAD POLITÉCNICA DE MADRID STUDENTS, DETERMINED TO FORGE AHEAD WITH A FUTURISTIC PROJECT THAT IS ALSO OF SERVICE TO SOCIETY.