Abstract

The MONUSEN project aims to increase the scientific excellence and innovation capacity of the Faculty of Electrical Engineering at the University of Montenegro (UoM) in the domain of Underwater Sensor Networks (USNs) by twinning with EU research-intensive institutions with strong expertise in the field: the National Research Council of Italy, the University of Zagreb Faculty of Electrical Engineering and Computing, and Newcastle University. The project goals will be achieved by organizing staff exchanges and expert visits for knowledge transfer, on-site trainings for hands-on experience, a research-industry workshop for strengthening links to the marine robotics industry, and summer schools with an emphasis on strengthening links to potential USN end-users. Moreover, MONUSEN partners will jointly conducts research in the area of USN communication protocols, cooperative control of mobile underwater and surface vehicles, and USN security. The vision of the priority areas of research in the next period includes: (i) development of adaptive MAC protocols for acoustic communication with the aid of machine learning, (ii) design of cooperative formation control algorithms for multi-AUV (Autonomous Underwater Vehicle) systems, and (iii) design and implementation of decentralized authentication methods for UASNs.