Record Nr. UNINA9910299835703321 Autore Insaurralde Carlos C **Titolo** Intelligent Autonomy for Unmanned Marine Vehicles: Robotic Control Architecture Based on Service-Oriented Agents / / by Carlos C. Insaurralde Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2015 3-319-18778-3 **ISBN** Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (240 p.) Collana Studies in Systems, Decision and Control, , 2198-4182;; 29 Disciplina 006.3 620 629.8 629.892 Soggetti Computational intelligence Robotics Automation Control engineering Computational Intelligence Robotics and Automation Control and Systems Theory Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references. Nota di contenuto Introduction.- Existing Robotic Control Architectures -- Intelligent Control Architecture. - Architecture Design -- Architecture Realization Architecture Evaluation. Conclusions and Future Work. Sommario/riassunto This book presents an Intelligent Control Architecture (ICA) to enable multiple collaborating marine vehicles to autonomously carry out underwater intervention missions. The presented ICA is generic in nature but aimed at a case study where a marine surface craft and an underwater vehicle are required to work cooperatively. It is shown that they are capable of cooperating autonomously towards the execution of

complex activities since they have different but complementary capabilities. The ICA implementation is verified in simulation, and

validated in trials by means of a team of autonomous marine robots. This book also presents architectural details and evaluation scenarios of the ICA, results of simulations and trials from different maritime operations, and future research directions.