

Validating combined navigational sensor packages for small vehicle platforms

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Abstract – Introduction of new sensor packages for marine autonomous applications is invariably a learning process for both the developer and the user. As the field of marine autonomy continues to accelerate into new technical realms, sensor manufacturers need to ensure that products are fit for contemporary and future applications. Technical capability is only part of the solution. The proliferation of advanced autonomous control and navigation is accompanied by a drive to provide such capabilities across a wider range of price and payload brackets – in other words, democratising autonomous control and navigation in addition to advancing it. In order to balance technical capability with commercial needs, Nortek have combined acoustic and inertial sensor capabilities in a compact navigation package designed exclusively to extend the capabilities of smaller vehicles.

Following two years of internal development and external collaborative testing, Nortek present use cases that demonstrate technical improvements resulting from an iterative process of user informed development. This presentation will focus on case studies covering multiple vehicle domains, and addresses the specific technical requirements associated with various vehicle applications. Use cases include: Fully autonomous navigation and combined oceanographic data collection from Micro-AUVs. Intelligent control and pilot aiding onboard inspection class ROVs. Simplifying underwater navigation for divers using a combined inertial and acoustic navigation package

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