

# Hybrid Underwater Vehicle Combines AUV and ROV Capabilities



The 'Fusion' hybrid underwater vehicle is a real breakthrough. It uniquely combines autonomous underwater vehicle (AUV) and remotely operated vehicle (ROV) capabilities with diver navigation and propulsion into one system, thanks to Nortek's DVLs. Both the electronics and transducers are smaller and have a better form factor for the Fusion underwater vehicle. The higher frequency for

increased accuracy is of huge value for aiding the Fusion's automated control and navigation system.

The added dedicated altimeter provides more accurate altitude directly below the Fusion for better terrain following. Nortek's 1MHz DVL has a bottom track that ranges from 20cm to 50m and its housing is available with a 4000m pressure rating. Even when offering this capacity, it is the industry's smallest DVL and is easy to integrate and operate.

## In-line Transducer Arrangement

The Fusion underwater vehicle has an in-line transducer arrangement and Nortek has contributed to this design. Nortek's contributions included recommendations and minor tweaks to make the vehicle work optimally.

The specific suite of sensors refers to inclusion of a multi-beam forward-looking sonar, side-scan sonar, USBL, DVL and AHRS. This design makes the Fusion more efficient, capable and cost effective.

Strategic Robotic Systems was founded with the premise of developing the next generation in underwater systems by approaching this challenge from a fresh perspective. They needed a partner with an equally fresh perspective as they were looking for navigation technology to be integrated in their new underwater vehicle.