Case Study:

COMPARING SONAR SUITABILITY FOR AUV OBSTACLE AVOIDANCE

IMPACT SUBSEA
INNOVATIVE SENSORS

ISS360HD FEATURES & BENEFITS

100 METER RANGE
Long range imaging.

6,000M DEPTH RATING
Ideal for shallow and deep water.

PITCH & ROLL*
Provides Pitch and Roll to 0.2° accuracy.

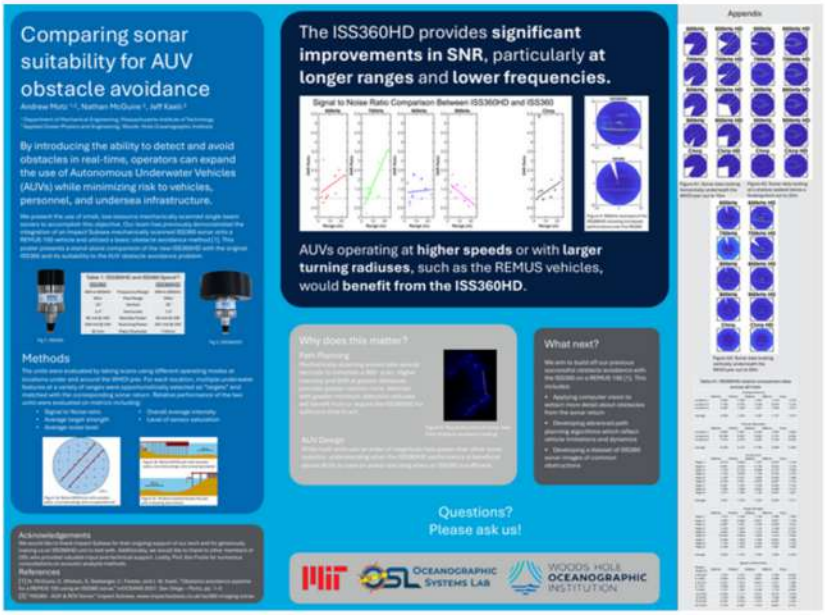
SMALL FORM FACTOR
Highly compact high resolution imaging sonar.

BROADBAND TRANSDUCER
Excellent image quality & range.

NO SLIP RINGS
No components to wear.

*Optional

Massachusetts Institute of Technology (MIT) and Woods Hole Oceanographic Institute have produced a comparison study titled 'Comparing Sonar Suitability for AUV Obstacle Avoidance'.



Comparing Sonar Suitability for AUV Obstacle Avoidance Poster

The study was presented at the IEEE AUV Symposium in Boston.

Led by Andrew Motz, Nathan McGuire and Jeff Kaeli, the study evaluated the two sonar systems under various underwater conditions, including different ranges and target types. The researchers compared the sonars' signal-to-noise ratio (SNR), average target strength, average noise level, overall average intensity and level of sensor saturation.

APPLICATIONS INCLUDE:

ROV & AUV Navigation | Target Identification | Diver Navigation | Port Surveillance | Motion Reference | Search & Recovery |

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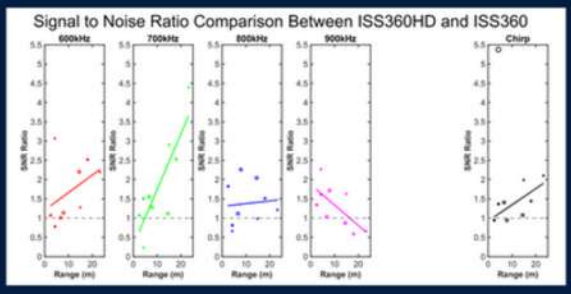
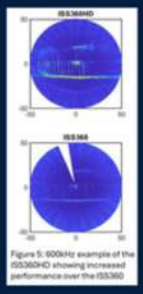
The results were clear: the ISS360HD demonstrated superior performance in all categories, particularly in terms of SNR, which is crucial for detecting obstacles at longer ranges and in challenging underwater environments.

This improved performance is due to the increased angular resolution of the ISS360HD, which enables the ISS360HD to capture more detailed and accurate information about the surrounding environment.

The ISS360HD provides **significant improvements in SNR**, particularly **at longer ranges** and **lower frequencies.**





AUVs operating at **higher speeds** or with **larger turning radiuses**, such as the REMUS vehicles, would **benefit from the ISS360HD.**

Extract from poster

The work has been published in full with the IEEE in the poster titled 'Comparing Sonar Suitability for AUV Obstacle Avoidance' which can be accessed using the QR Code at the end of this article.

Ben Grant, Managing Director of Impact Subsea said;

"With the ISS360HD sonar we were keen to provide high resolution sonar imagery to all classes of underwater ROV and AUV.

We are pleased to review the exciting work of MIT and WHOI and their thoughts on the ISS360HD benefits for future AUV integrations."

The study's findings have important implications for the marine technology industry, as AUVs are increasingly being used for a wide range of applications, including scientific research, offshore exploration and environmental monitoring.

The ISS360HD's superior obstacle avoidance capabilities can help to ensure the safety and reliability of AUV operations while also improving their efficiency and effectiveness.

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