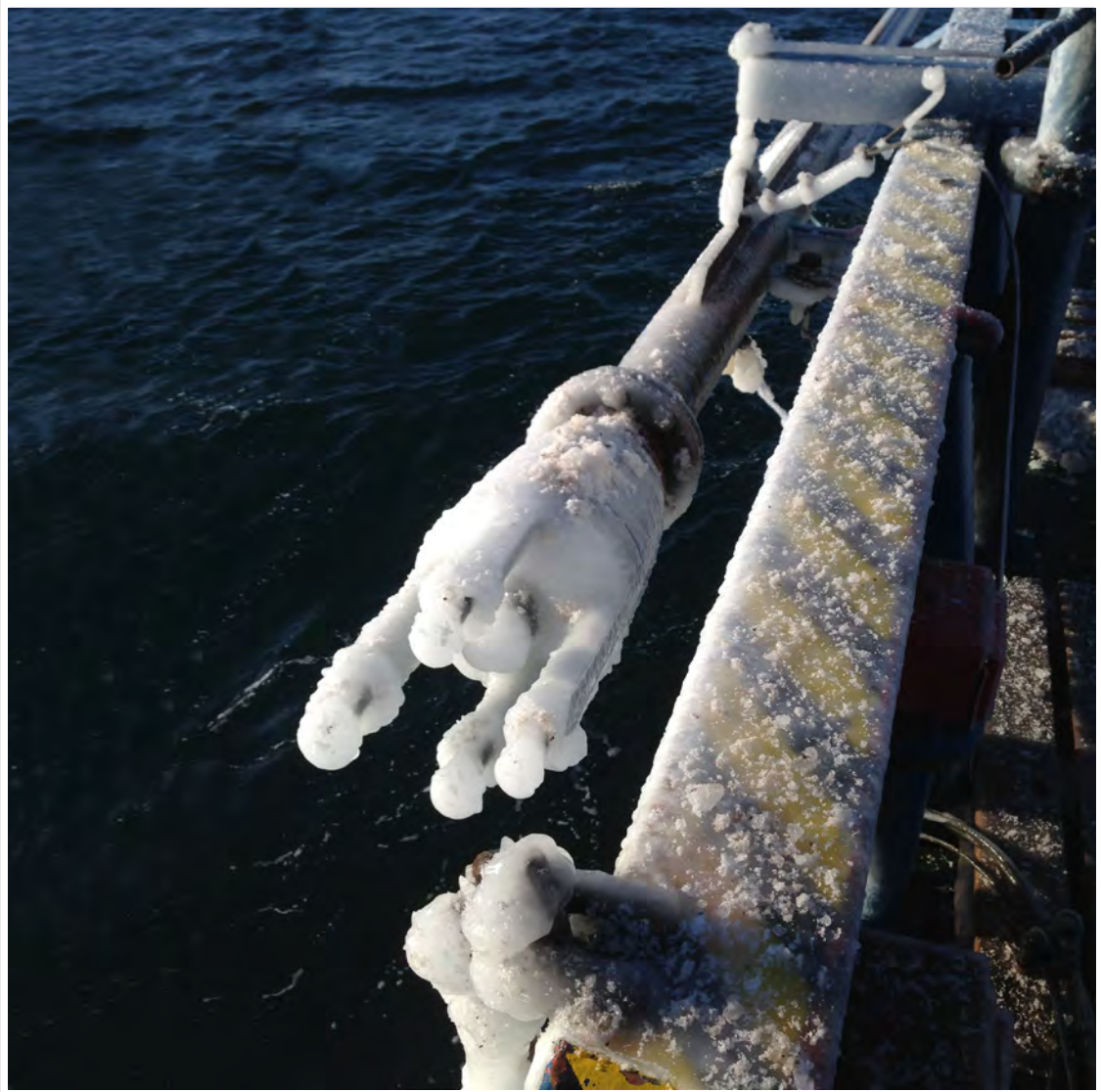


UT THREE

UNDERWATER
TECHNOLOGY



Issue Five 2019

VEHICLES • COMMUNICATIONS



MSI 520 DAY MEASUREMENT

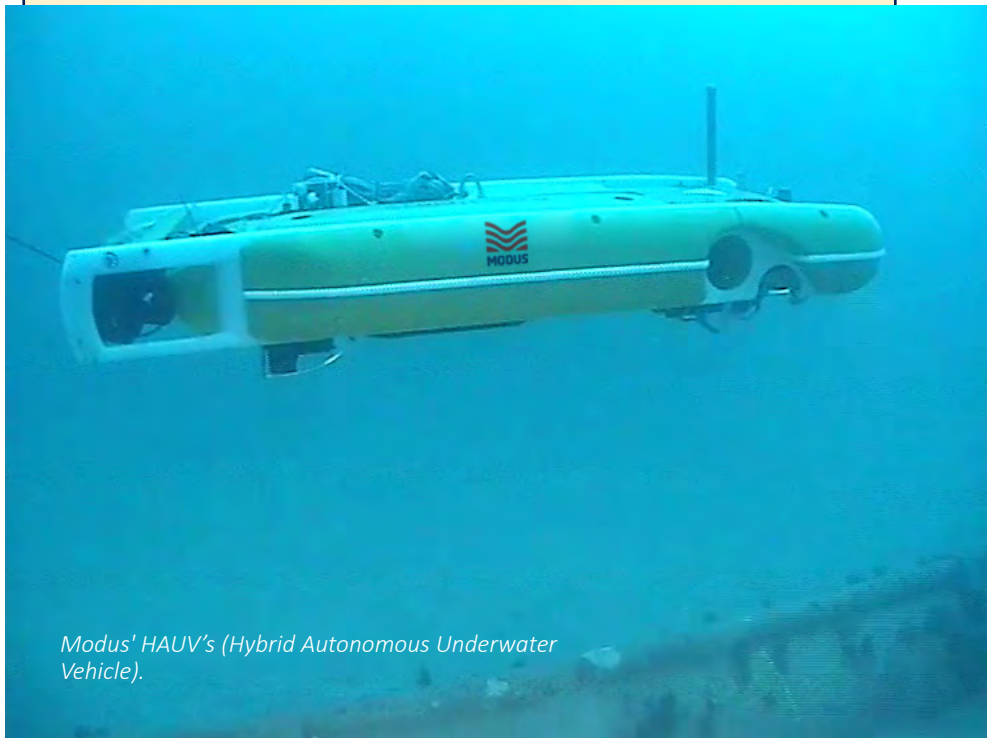
The Alexandroupolis Independent Natural Gas System (INGS) is a modern, cutting edge technology project which will supply natural gas into the Greek and Southeast European gas markets. The project comprises of an offshore Liquefied Natural Gas (LNG) Floating Storage and Regasification Unit (FSRU) and a subsea and onshore gas transmission pipeline system.

Expecting to begin commercial operations in 2022, the project is being implemented by GASTRADE S.A, a company that studies, designs, develops, operates and exploits infrastructures which are necessary for the reception, transmission and distribution of natural gas as well as for its storage, liquefaction and re-gasification.

To support the detailed design of the project, GASTRADE contracted MSI to collect a range of metocean data, including directional waves and current profiles at 2 locations (one at the proposed FSRU location and one nearshore at a pipeline crossing), as well as various meteorological parameters onshore. Originally deployed in November 2017, the equipment was finally recovered in May 2019 with 4 interim site visits to check on equipment status, as well as to collect water samples for suspended sediment concentration and photograph biofouling for identification.

The equipment provided comprised 2 AXYS TRIAXYS directional wave buoys, each fitted with an integrated Nortek Aquadopp current profiler, as well as a Campbell Scientific weather station onshore for measurement of winds, air pressure, air temperature, relative humidity and rainfall. Data from both the wave buoys, as well as the weather station, was transmitted in real-time to a website for the client to access. Data collected from the project was provided to BMT to produce a metocean criteria report.

MODUS



Modus' HAUV's (Hybrid Autonomous Underwater Vehicle).

Modus has recently completed a high-speed decommissioning survey for Rever Offshore in the North Sea using one of its HAUV's (Hybrid Autonomous Underwater Vehicle).

The objective of the survey was to locate any items of debris that remained at the sites after the decommissioning of Fairfield assets in the Northern North Sea, including work performed within the 500m zone, and the scope further included survey of pipeline routes between additional platforms.

The surveys were successfully performed at speeds of up to 4.6km/hr in water depths of approximately 150m. For this scope, the flexible HAUV was equipped with dual head multi beam sonars and high-resolution Side Scan Sonar. Utilisation of the HAUV spread increased operational efficiency in relation to the speed of data acquisition and improved data quality.

Philip Strettle-Brown, Survey Manager at Rever Offshore commented "The use of the HAUV allowed us to significantly reduce the timescales of obtaining the required survey data and improve the overall efficiency of the produced surveys. The data obtained was of significantly higher quality and resolution when compared to alternative methods"