

Offshore Pipelines Inspected Using GAVIA AUV

SeeByte, a cutting edge software solutions company, used its AutoTracker intelligent payload software to guide a GAVIA Autonomous Underwater Vehicle (AUV) as it inspected two pipelines in Reykjavik, Iceland. Hafmynd, the manufacturers of the GAVIA AUV, supported the trials, and the work was funded by BP Exploration Operating Company Ltd.

The purpose of this trial was to tackle complex pipeline shapes. The AutoTracker software interfaces to the AUV that is pre-programmed on the surface to carry out specific underwater missions, navigating using sonar and other sensors. The GAVIA can be launched from vessels or from shore by two personnel without the need for specialist cranes or lifting equipment.

SeeByte was able to demonstrate the capabilities of the inspection system during multiple runs over 4 km of the eastern sewage pipeline in Reykjavik Harbour, and 3 km over the western outfall. The operations were carried out in very shallow waters (2 to 30 m), but the GAVIA AUVs can operate to depths greater than 1,000 m. A total distance of over 36 km was completed during the operations.

SeeByte developed the AutoTracker intelligent payload as part of the SeeTrack Offshore family. The AutoTracker payload paints a picture of the seabed and interprets that picture so that it can instruct the AUV to maintain a constant offset from a pipeline. The payload is capable of accurately tracking a single pipeline among multiple pipelines and on varied terrains. In addition, AutoTracker includes advanced search routines that enable it to recover the pipeline track after an unexpected pipeline



burial. This trial was a follow up to the BP-sponsored trials carried out in 2006 using a larger AUV and the trials carried out in March of this year in Orkney using a two-man portable AUV. Arnar Steingrímsson, Marketing Manager for Hafmynd said, "The combined solution of a man portable GAVIA vehicle capable of operating in depths in excess of 1000 m combined with AutoTracker software provides our customers with a new dimension for the use and application of AUV technology while providing real added value over traditional methods of pipeline inspections and surveys."

Ioseba Tena, Sales and Marketing Manager for SeeByte says, "The AutoTracker payload is an important part of our SeeTrack Offshore product range. Importantly, we have found that the GAVIA system equipped with an Inertial Navigation System is capable of offering excellent navigation accuracy capable of meeting the industry's strict requirements for surveys."

Angus Hinks, Subsea Process Engineer for BP said, "The trials have provided us with confidence that AutoTracker on low logistic AUVs will allow cheaper and more rapid pipeline surveys to be carried out, thereby satisfying the need for many of our global business units."