

International R&D Collaboration Developing Universal AUV Connection



A universal interface to facilitate autonomous underwater vehicle (AUV) docking with subsea structures is being developed through international collaboration between companies and universities in Brazil, Norway, Poland, Sweden and the UK. The consortium, led by WiSub (Norway), includes leaders from industry and academia: Bergen University, DOF Subsea, easySubsea, Federal University of Rio de Janeiro, Kongsberg Maritime, Saab Dynamics, Sonardyne, Statoil, Swire Seabed and Warsaw University of Technology.

Statoil Norway is driving the initiative in a project whose results shall enable long-term remote operation of underwater vehicles through battery charging and high-bandwidth data transfer via a seabed-based docking station. The ability to charge distributed sensor

networks from AUV systems shall also become possible with bi-directional power transfer being developed in the project.

This joint industry project is receiving financial support from the Research Council of Norway and Brazil's R&D funding body, Finep. The project is led in Norway by WiSub and in Brazil by easySubsea, experts in pinless power and data connections and wireless underwater communication respectively.

Battery life of seabed-based robotics typically does not extend beyond a day or two before requiring recharge. The vast amounts of data collected by an AUV also requires distribution and processing, typically to an on-shore facility for analysis. Connection to an underwater cabled network linking seabed to shore is the primary means to achieve charging and data transfer, however connection systems that employ conductive pins have tight mating tolerances, sealing systems and limited mating cycles. By removing the pins from connections, repeatable reliable underwater connection and disconnection becomes an achievable reality.

According to project leader Nigel Money, this ambitious project aims to achieve a system-independent standard in AUV connection, bringing the industry one step closer to complete subsea automation.

WiSub patented, award-winning pinless connection systems deliver power and data electromagnetically across a seawater gap, relaxing mating tolerances and eliminating short-circuit possibilities.

The Research Council of Norway supports project 262516 under their Petromaks2 funding programme. The project runs until December 2018.

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