FINALIST IN THE BUSINESS IMPACT – ACHIEVED CATEGORY

Autonomous Inspection of subsea cables and pipelines from SeeByte Ltd/Heriot Watt University

Autonomous inspection of subsea telecommunication cables, power cables and pipelines (AUTOTRACKER) is the first such commercial inspection that uses an Autonomous Underwater Vehicle (AUV), and the only one using a low logistic 2 man portable AUV. Damage to subsea cables and pipelines (due to a range of activities) could lead to the shut-down of critical supply or communication lines and, occasionally, to environmental disaster. An AUV equipped to undertake inspection of these installations would lead to major improvement in the early detection and prediction of faults. Although AUV systems were already commercially available their main limitation in this role was that of inadequate target acquisition and tracking capability.

Innovation

The company was founded on the principal of ongoing collaboration with Heriot Watt University (HWU), and AUTOTRACKER was recognised as a technology that could be transitioned for use in offshore energy, power distribution and naval applications. The intellectual property for the AUTOTRACKER project was secured by Heriot Watt and SeeByte Ltd. Under the ongoing licensing terms originally negotiated by Research and Enterprise Services at Heriot Watt and SeeByte and incorporated into the shareholders agreement, Autotracker was duly licensed, and industrial support gained from BP and Subsea7 for a series of technology de-risking activities, including offshore trials. From this AUTOTRACKER took its place within the SeeTrack family of solutions.

Knowledge transfer

The project demonstrates the implementation of Heriot Watt's knowledge transfer strategy, particularly the flow of intellectual property from the University into a spin-out company and the return to the University of extra revenue generating through collaborative research and licensing. Through employment of HWU graduates and licensing of the follow-on IP, SeeByte and the University have established extremely effective mechanisms for delivering innovation into practice. The strategy behind the organic growth of SeeByte is now well established within HWU, where spin-outs focus from a very early stage on generating revenue and funding further product development through grant funding and sales income.

Impact

The project has achieved significant impact by sustaining a high tech company. SeeByte Ltd, spun out from Heriot Watt in 2001 to commercialise autonomous inspection solutions in offshore energy and naval markets. In the ensuing 10 years SeeByte has become a world leader in the field of smart solutions for autonomous vehicles, now employing over 40 full time staff, profitably turning over $5 million with cash reserves, and up to 75% of revenues generated from export sales, principally in the US. In 2011 the University and SeeByte have signed three additional licence agreements covering 14 new technologies, enabling SeeByte to secure a major contract.

Key points

- The first commercial system for inspection of pipelines available, using an Autonomous Underwater Vehicle (AUV)
- Reduces the risk of critical supply or communication shut-down, or environmental disaster
- Demonstrates implementation of knowledge transfer strategy
- Now world-leading in its field with $5 million turnover, and export sales 75% of revenues. Three additional licence agreements, covering 14 new technologies

Primary team

Dr Olga Kozlov, Enterprise Creation Manager, Heriot Watt University

Professor David Lane, Founder and Direcotr of SeeByte Ltd

Professor Yvan Petilot, Director of SeeByte Ltd

Gillian McFadzean, Director of Enterprise and Research Services, Heriot Watt University

Robert Goodfellow, Knowledge Exchange Executive, Heriot Watt University

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