SHEARWATER MARINE SERVICES
CASE STUDY: VIDEO AND DATA CAPTURE FOR SUBSEA INSPECTIONS

GLASGOW CALEDONIAN UNIVERSITY (GCU) AND SHEARWATER MARINE SERVICES LTD HAVE DEVELOPED A NEW FORM OF VIDEO AND TECHNICAL DATA TRANSFER WHICH WILL ALLOW REMOTE REAL-TIME VIDEO VIEWING AND DATA CAPTURE OF SUBSEA INSPECTIONS, WITH SIGNIFICANT EFFICIENCY AND SAFETY BENEFITS TO THE OIL AND GAS INDUSTRY.

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Through a Knowledge Transfer Partnership (KTP) between Shearwater and GCU, the two organisations have designed new systems that can instantly upload underwater images and technical information to a central database.

Knowledge Transfer Partnerships (KTPs) involve the forming of a partnership between a company and an academic institution, enabling the company to access skills and expertise to help it develop. Each partnership employs a high calibre Associate, a recent graduate, to facilitate this transfer of skills and expertise. The Associate works within the company and is jointly supervised by company personnel and a senior academic.

This new form of video and technical data transfer will allow office-based decision makers to view the dive and communicate with the dive site in real time, improving reporting quality and providing enhanced data storage and retrieval.

The system allows specific time-coded reference points and comments to be logged with stored video. Output reports can be produced quickly. Vital for the oil and gas industry, real-time decisions can be made to ensure damage litigation and prevent costly further problems.

Tommy Henaughen, General Manager at Shearwater Marine, said: "This is an exciting development that will set a new industry benchmark in underwater inspection and reporting and will deliver real benefits directly to customers. From a company development perspective it will also present a platform to attract new customers and facilitate the progression into new markets both nationally and internationally."

The Glasgow Caledonian University expert team comprises Professor Brian Stewart, Alan Nesbitt and Dr Ali Ahmadinia from the School of Engineering and Built Environment.

Professor Stewart said: "Using current technology, we have developed innovative recording and database systems for Shearwater that allows instantaneous streaming and upload of images as well as other key technical information to a central electronic database, so that dives can be viewed and assessed immediately.

"Clients - no matter what their location – can watch underwater investigations live allowing them to make instant and better informed decisions about the care and maintenance of subsea assets."

Scottish diving and marine contractor, Shearwater Marine Services Ltd, based in Dunoon, employs its expertise in a variety of areas including laying and maintaining subsea cables; ship inspection and maintenance; civil construction; infrastructure inspection and maintenance and aquaculture services in Scotland, the UK and beyond.

Examples of the company's underwater operations include the installation of subsea cables for the European Marine Energy Centre (EMEC) in Orkney. Shearwater's dive teams work in difficult conditions on projects such as the removal of the temporary piles prior to the opening of the new Forth Crossing at Kincardine. Working in zero visibility and strong tidal conditions the divers worked inside the 3m diameter piles affording them protection from the strong current.

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At Glasgow Caledonian University, we work with industry and public sector partners to ensure our expertise responds to the need for real-world innovation. GCU's strategic business development and knowledge transfer teams work with academic experts in our Schools and Research Institutes to support businesses with a problem-solving approach.

Contact us to find out more about building a brighter future with GCU at www.gcu.ac.uk/business.

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