

Cooperation for ROTV Supply



At the beginning of the 2013 pipeline inspection season, client requirements led to Fugro Survey Limited needing to move fast to acquire a new remotely operated towed vehicle (ROTV). MacArtney had lined up a FOCUS-2 vehicle for show as an eye-catcher at the company's Ocean Business stand in April 2013. After a to-the-point talk with MacArtney's sales manager for Ocean Science, Fugro progressed to place an order for the actual on-display FOCUS-2 vehicle.

Through more than 70,000 kilometres of successfully completed ROTV-based pipeline inspection operations in the past decade, UK-based Fugro has simultaneously carried more than one operational ROTV systems on Fugro's Dynamic Positioning Survey Vessel, the *M/V Fugro Discovery*. This principle is set to enable operators to perform a hot-swap of vehicles, hereby minimising downtime, maximising system utilisation and effectively securing fast results for pipeline inspection clients.

Dynamic teamwork for speedy delivery

Fugro would have been happy to take the FOCUS-2 home in direct continuation of the show. However, in order to comply with custom Fugro specifications, the vehicle needed to undergo a range of preparations and modifications. These needed to be accomplished and the vehicle delivered in a short time. Since FOCUS-2 systems operated by Fugro are fitted with EdgeTech 2200-M integrated side-scan sonar systems operating at 300 and 600kHz to provide high resolution data with improved signal-to-noise ratios - the rapid involvement of EdgeTech sonar technicians was required as well. In three weeks, a team effort lead the transformation of this display model ROTV into a fully equipped and operational FOCUS-2 system according to Fugro's specifications.

The MacArtney FOCUS-2 ROTV system

The [FOCUS series of remotely operated vehicles \(ROTV\)](#) was introduced by MacArtney in 1989 and since then, it has been used extensively for demanding underwater pipeline inspection tasks. In 2006, Fugro replaced existing FOCUS vehicles with the latest generation MacArtney FOCUS-2 system. In addition to providing increased stability (decimetre accuracy in height above seabed, plus superior roll/pitch/yaw control), the FOCUS-2 uses state-of-the-art MacArtney fibre-optic telemetry for vehicle and sensor communication, resulting in improved data quality and a more precise image of the pipeline.

In addition, increased capacity allows the FOCUS-2 to carry a broad range of sensor packages and underwater equipment including digital side-scan sonar, multi-beam sonar, sub-bottom profiler, fibre-optic gyro, magnetometer, sound velocity sensor, MRU, INS and others.