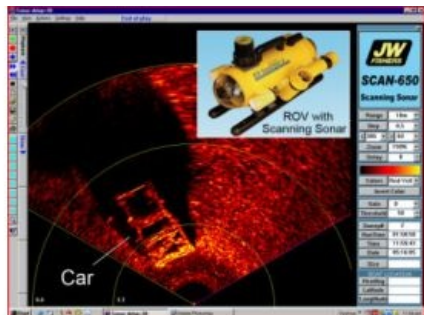


Scanning Sonars Assist Underwater Searches



Scanning sonar is fast becoming the tool of choice for underwater search operations by a diverse group such as public safety dive teams, universities and commercial diving companies. Reasons for the popularity of the sonar include its effectiveness and cost, which is only a fraction of a side-scan sonar.

Scanning sonars are in demand because they create a picture of the underwater environment regardless of water clarity. Although these sonars lack the long range and

very high resolution of side scan, they still give a larger and better picture of the underwater environment compared to an underwater camera or diver. Even in areas where there is zero visibility, the sonar can produce a detailed image of objects on the bottom or in the water column.

Scanning sonar works by transmitting a sound wave from a transducer. This sonar beam sweeps an area underwater much like radar does in air. The beam is reflected from underwater objects and returns to the transducer where it is received and sent to a topside computer for display and storage. Other information can be saved with the sonar data, such as GPS coordinates and notes made by the operator. The operator controls the size of the search area through the computer. The sonar beam can sweep a 360 degree circle around the transducer or any portion of the circle.

Another reason scanning sonar is so popular is its versatility. It can be operated as a stand-alone search system or mounted on an ROV. With the stand-alone version, the transducer is lowered from a boat on a pole or mounted on a tripod and lowered to the bottom. After an area is searched, the sonar is retrieved and moved to a new area where the process is repeated. With the ROV-mounted version, as the underwater vehicle moves slowly along the sonar continually scans the course ahead. The sonar can 'see' a much greater distance than the camera which lets the operator navigate around obstacles and guide the vehicle towards the target. Once within visual range, the ROV camera can take over and perform a closer inspection.

The University of Alaska is using a JW Fisher ROV with scanning sonar for their study of marine ecosystems. The school is part of a national cooperative program that promotes research in the management of fish and wildlife. It also has a Coastal Marine Institute. As part of an agreement between the university and the US Department of the Interior's Minerals Management Service, the institute's researchers explore coastal sites and assess the potential for development of natural gas, oil and minerals.

Two California law enforcement agencies are using scanning sonar to search for drowning victims, locate sunken vessels and find submerged vehicles. Toulumne County Sheriffs Department and Riverside Sheriffs Department have both acquired Fishers sonars for their dive teams.

Several Nigerian oil field service companies are also using scanning sonar in their projects. Geodetic Offshore Services attached their SCAN-650 to a Mohawk ROV which allows them to provide clients with detailed site surveys. Fem Associates use their scanning sonar for pipeline location and tracking. On a recent pipeline installation project, they attached the sonar to dredging equipment in order to see the position of the dredge head in relation to the trench being excavated. The sonar not only produced an image of the trench, but also showed the position of the pipe and depth of the trench.

Digital Horizons based in Port Harcourt is using two SCAN-650 sonars; one is attached to their Fisher SeaLion ROV and the other is being used as a stand-alone system. CEO Akhigbe Irene said "It's very convenient to work with a vendor that can provide a wide range of quality products. This is one of the key reasons we chose JW Fishers as a supplier."

Fishers scanning sonars are available in two types: the SCAN-650A is designed for use as a stand-alone search system or for mounting

on larger ROVs and the SCAN-650B is designed for use on smaller ROVs. For more information on their complete line of underwater search products, visit www.jwfishers.com.

<https://www.hydro-international.com/content/news/scanning-sonars-assist-underwater-searches>
