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FEATURE STORY

Transformative Marine Manufacturing

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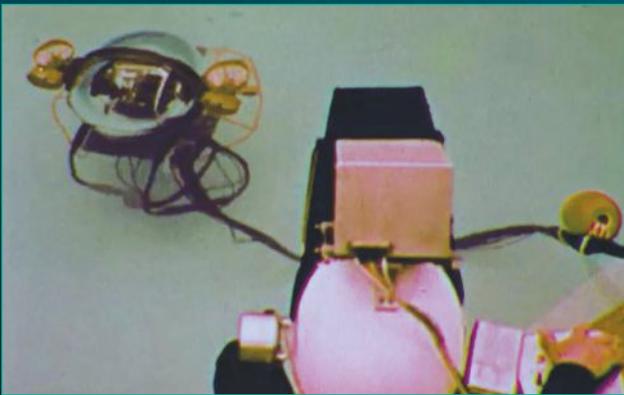




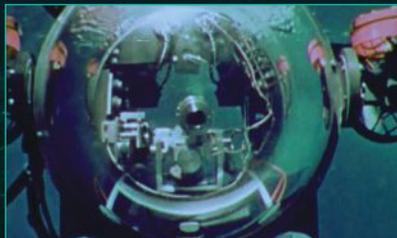
• In 1973, the rescue of Roger Mallinson and Roger Chapman from *Pisces III* proved ROV technology on the public stage. From the historical files of the author.



• The *Poisson Auto-Propulse* (self-propelled fish) or PAP was developed by ECA in the 1970s for underwater mine detection. It had to operate silently, because the slightest noise could trigger a detonation. Sounds dangerous, but the first PAP is still in service for the French Navy, forty years after deliver. Photo courtesy of ECA.



• ANTHRO, a transparent hulled unmanned vehicle, provided remote viewing of the undersea environment. The operator's vision was coupled to the vehicle using a helmet. As the operator moved his head, the vehicle and its camera responded in like fashion. Images courtesy of U.S. Navy.



What the industry needed was something to put its capabilities on center stage. That opportunity came in 1973. The U.S. Navy's *CURV* vehicle had transformed into a "flyaway" system that could be flown around the world in an emergency. Near Cork, Ireland, the *PISCES III* manned submersible was trapped on the bottom in 1575 feet (480 meters) of water. Two men were aboard—Roger Mallinson and Roger Chapman—but they were losing oxygen, and saving their lives would require the deepest sub rescue in history.

It took 76 hours to fly there, deploy, and reach the site of the sinking. With only seconds of air left for the two occupants, a final recovery line was attached to the vehicle with a "Rube Goldberg" toggle bolt made on-site using a crescent wrench, two pieces of steel channel and some bungee cord. Finally, ROV technology had hit the front pages worldwide and acceptance was beginning.

ROVS ACCELERATE

During the next eight years, the development of ROVs accelerated, and by the end of 1982 over 500 vehicles had been developed. Prior to that time, 85 percent of the vehicles were developed using government funding. But for the 350 new vehicles developed and constructed during that period, 95 percent were funded by private industry. And, those numbers do not include the over 200 *PAP-104s*, manufactured by Societie Eca, Meudon, France, for mine countermeasures.

The rather inexpensive *PAP-104* was battery operated and hugged the bottom by dragging a weight suspended below as it searched for the target. After delivering the explosive charge, the vehicle was recovered, and the charge detonated from the surface.

San Diego was becoming the center of ROV activity, with not only the local development of the vehicles, but most supporting technologies including cameras, cables, lights, etc. In addition to the product line that Hydro Products was developing, AMETEK, Straza Division, also in San Diego, developed the Deep Drone vehicle for the government. This was the beginning of AMETEK's *SCORPIO* line of vehicles. Another spin off of government developments was the *RECON* line of vehicles manufactured by Perry Offshore in Florida that were based on the U.S. Navy's *NAVFAC SNOOPY* vehicle design.

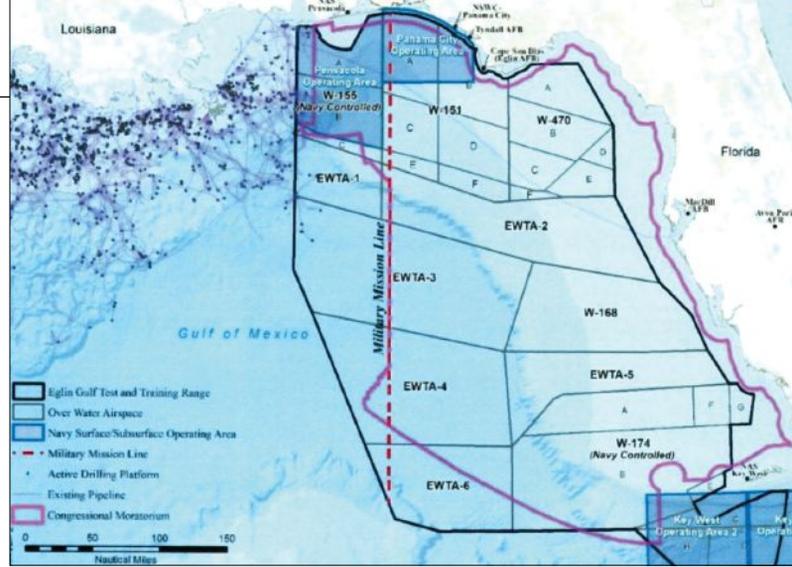
The U.S. Navy began to focus on deep vehicle technology that would provide them with the capability to recover objects at depths to 20,000 feet, which would cover 98 percent of the ocean. And, industry, primarily offshore oil and gas, began to focus on developing smaller, lighter and more reliable vehicles, a goal that was in proportion to the advancements made in the miniaturization of the onboard electronics.

Report Details How Military and Energy Companies Coexist in Gulf of Mexico

The National Ocean Industries Association has announced that they welcome a report on Preserving Military Readiness in the Eastern Gulf of Mexico.

NOIA's statement said that the report, "not only provides a template for future coordination and consultation between the Department of Defense (DOD) and the Department of the Interior (DOI), but also is a starting point for a productive and cooperative relationship between the offshore energy industry and DOD. The report shows there is a lot of ocean out there and while there will be devils in the details, the overall message from the Pentagon should be interpreted as cooperation and coordination. In addition, as companies are allowed to explore and evaluate oil and natural gas plays, it is likely that areas of high potential will be more clearly defined and thus allow for additional military operations.

"The report identifies areas in the Gulf of Mexico where energy development activities can occur and as importantly, the very limited areas where DOD recommends they cannot. Military operations and energy development have co-existed and



Military scheduling areas and oil and gas development in the Eastern Gulf of Mexico.

thrived in many areas in the Gulf of Mexico for decades under a 1983 Memorandum of Agreement between DOD and DOI, as evidenced by the roughly one-third of current Gulf leases including military training stipulations and restrictions. The report concludes that, with similar stipulations and restrictions mutually agreed on by DOD and DOI, critical military operations and essential energy development can co-exist and thrive in the eastern Gulf of Mexico as well."

The full report is available at WWW.NOIA.ORG/WP-CONTENT/UPLOADS/2018/05/USDRE-RTC-ON-MIL-MISSION-LINE-MORATORIUM-9MAY18-1.PDF



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