

ENVIRONMENTAL RESCUE BENEATH THE WAVES

While sunken shipwrecks might evoke thoughts of gold bullion, drama and mystery, the reality is that what lies on the seabed is more likely to be an environmental threat than a treasure trove. The fuel oil aboard Second World War wrecks lying off the Norwegian coast poses a major hazard to local marine life, but a specialized pumping system from Framo has been developed to safely and remotely remove these toxic substances.

TEXT: **AMY JOHANSSON**



There is a hidden threat lurking on the seafloor off Norway. Norwegian coastal authorities have classified 30 shipwrecks, of German, British and Norwegian origin that have been buried since 1940-1945, the period of the nation's wartime occupation. While the saying goes "dead men tell no tales", these wrecked vessels continue to pose a threat to the marine ecology of their watery grave.

Constructed and operated during an era of coal-based fuel oils, the metal of the vessels' structures may corrode and oil and fuel leak out as the years pass. International coastal agencies, national coastal authorities and marine ecologists have long sought solutions to this growing toxic threat.

There is, however, no simple fix to this widespread problem. Norway's waters are deep – and rugged, and cold. In the past, divers had the painstakingly slow, risky and costly task of offloading these vessels. But today the exposure risk for divers, both to the frigid water and to the leaking toxins near the wreck, is judged to be too high, while regulations anyway limit air dives to 30-50 metres. There is also the threat of undetonated explosives in the vessels' cargo.

Framo's Remote Offloading of Sunken vessels (ROLS) system, which entered development in the 1990s, finally offers a safer and more cost-effective solution, with no need for divers. A slim, manoeuvrable Remote Operated Vehicle is navigated down to the wreck, where it drills through the side of the vessel and empties the tanks of the hazardous fuel oil and cargo. The waste is then disposed of onshore according to regulations.

The company, with its extensive marine experience, and globally trusted brand of submersible pumps, has successfully carried out 16 operations since for the Norwegian Coastal Authority and others. There have been five additional successful operations conducted with the latest generation ROLS XO system, following its debut in 2012.

As the result of a serious incident in 1977, Norway has the world's strictest regulations on oil spill contingency and is considered a world leader in oil spill prevention and response. The Norwegian Oil Spill Control Association (Nosca), of which Framo is a member, brings together the private sector, R&D institutions and government pollution control authorities to develop equipment and contingency planning for oil spill emergencies.

IN JUNE 2015, the sunken Second World War vessel Eric Giese was emptied of oil. It was the last of four vessels in the Narvik/Lofoten area to be made safe under Framo's contract with the Norwegian coastal administration.

"Our new ROLS XO has proven to be an unique tool for recovering oil from sunken vessels," says Terje Ljones, Sales Manager, Oil Recovery Systems at Framo. "We can never completely safeguard ourselves from oil spills, but with our innovative solutions and continuous refining of our products, Framo has proven to be prepared for any challenge." ■

1938

Company founded by Frank Mohn. Pumps used for emptying herring from fishing boats.



1960s

First company to apply hydraulic drive to marine pumps



1970s

Enters the North Sea offshore market



2014

Acquired by Alfa Laval



FRAMO:

From local player to a world leader

Over a half century Framo – formerly know as Frank Mohn AS – has grown from a small supplier of pumps to Norway’s herring fleet to a world leader in submerged pumping systems, with its products deployed on cargo tankers, oil tankers and oilrigs around the globe. It is the largest company ever acquired by Alfa Laval.

Now part of the Alfa Laval Group, Framo offers unique pumping systems to the marine and offshore markets and has an exceptional service focus.

■ **MARINE SOLUTIONS:** Framo’s hydraulically driven, submerged cargo pumping system provides safe, efficient and flexible cargo handling. System efficiency secures higher vessel utilization, which means ship operators can earn more money. Ships with Framo pumping systems fetch a premium on the second-hand market.

■ **OFFSHORE SOLUTIONS:** Framo offers pumping systems for offshore and onshore applications. Suitable for fire water pumps, seawater lift pumps and cargo pumping systems for offloading, the systems help meet the increasing focus on efficiency, uptime and reliability

■ **OIL RECOVERY SOLUTIONS:** Framo offers high capacity systems for recovering any kind of crude oil or refined oil whether on sea surface from oil spill or from sunken vessels.

■ **SERVICE OFFERING:** Much of the reason Framo has an excellent reputation in the market

is down to the quality of service. From commissioning and training to regular service and a comprehensive spare parts offering, customers buying Framo systems across the world expect – and receive – the very best customer care.

■ **TECHNOLOGICALLY,** Framo has always been at the forefront, improving, researching and developing systems for its customers. The technological innovation stems from the good relationships built over time with shipowners.

Despite fluctuations in the market, Framo has grown continuously. Ivar K. Johannessen, Managing Director of Framo Services AS, attributes this growth to three main factors: technology, service and a complete system approach.

“We understand more than just the pumping system. We have to understand their business and operations,” he says.

The 2014 acquisition by Alfa Laval has been positive both for Framo and for its customers. “Our customers know us, and they know Alfa Laval,” adds Johannessen. ■

IN SHORT: **FRAMO**

■ **FOUNDED:** 1938

■ **WORLDWIDE LOCATIONS:** Bergen, Busan, Shanghai, Tokyo, service sites in Singapore, Rotterdam, Houston, Dubai, Luanda, Mexico City and Rio de Janeiro

■ **HEADQUARTERS:** Bergen, Norway

■ **SYSTEMS AVAILABLE:** Cargo pumping systems, fire water systems, seawater lift pumps, water injection pumps, cavern pumps, oil recovery systems (Transrec), emergency offloading equipment, and special equipment for offshore applications.



In action off the Norwegian coast

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TERJE LJONES, SALES MANAGER, OIL RECOVERY SYSTEMS AT FRAMO.



The Framo ROLS is prepared to enter the water