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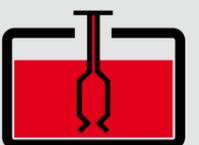
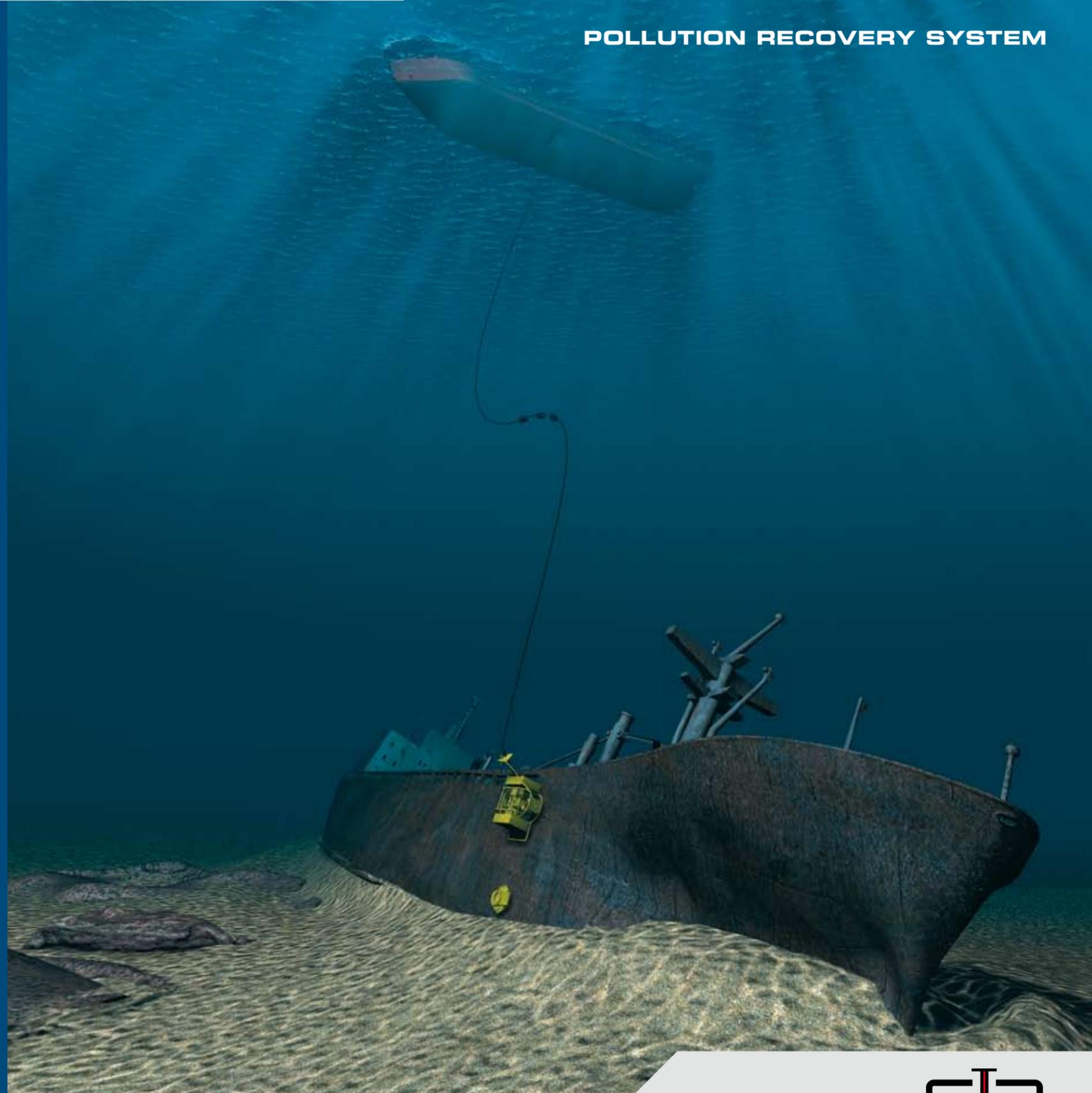
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## POLLUTION RECOVERY SYSTEM



# DEEP SEA OIL RECOVERY

In co-operation with our Norwegian partner, pump specialist Frank Mohn, SMIT has completed a number of highly successful operations involving the recovery of oil and chemicals from vessels located on the seabed at "greater depths".



The first generation ROLS (Remote Offloading System), a component of the POLREC system.

In the salvage industry, "greater depths" refers to operations in water deeper than 50 metres. In the past, work at this depth required a technique called saturation diving and the utilisation of expensive diving support vessels.

In searching for a more economical solution to the recovery of oil and chemicals from "greater depths", SMIT and Frank Mohn developed the POLREC (Pollution Recovery) system. Since its development, this system has proven itself with the successful recovery of oil from two tankers, 'Yu-II 1' and 'O-Sung 3', both of which had sunk to a depth of 80 metres off the Korean coast.

The successful completion of this operation earned SMIT and Frank Mohn the internationally acclaimed "Seatrade Award" for Countering Marine Pollution.

Further verification of the POLREC's capabilities came in 2001 when the system was used to recover the chemical cargo and the high-viscosity bunkers from the chemical carrier 'Ievoli Sun', which had sunk in the English Channel off the island of Alderney. As the 'Ievoli Sun' was a double hull



The second generation ROLS.

tanker, two penetrations were necessary to allow access to the cargo tanks. A specially designed "Double Bottom Tool" was deployed for this purpose.

Despite the challenging conditions in which the operation took place, with strong currents ranging from 4 to 7 knots, the operation was a complete success. It was the first time ever that cargo was recovered from a double hull tanker.

The present configuration of the POLREC system allows for immediate mobilisation and execution of work at water depths up to 500 metres. Further adaptations in the future will allow the system to work at even greater depths of 2500 or even 4000 metres.

Underwater video screenshot of the inserted "Double Bottom Tool".



Recovering cargo from sunken ships necessitates special safety precautions, such as nitrogen (see the "Westfalen" tank).



The "Double Bottom Tool" used for penetration of a double hull.

The POLREC system has been designed to remove oil and chemicals from vessels lying on the seabed in very deep water, without the assistance of divers.

The support ROV is purposely equipped with one Schilling arm and one TA 16 manipulator.



Close up of the 100 mm diameter "Double Bottom Tool". A central pin pushes the steel circle into the tank and the small reservoir in the mill collects the mill waste. Via the extended pipe the cargo will be pumped to the surface.

