

# REMONTOWA

Remontowa has diversified its activities in order to meet the challenges arising from the changing conditions in the world shipping market. Another element in Remontowa's changing strategy has been the inclusion of a new type of conversion - the conversion of ro-ro type ships into cable ships.



Two different approaches concerning global communications are currently underway. One is the development of satellite telecommunication connections, the other focuses on ground-based connections; the great demand for this kind of investment is a direct result of the creation of new information highways. Over the next few years, we can expect to witness the laying of huge quantities of ground-based and submarine cables, enough to encircle the planet, creating a truly global telecommunications network.

A special type of ship is required for the laying of submarine cables and Remontowa has won orders for the conversion of traditional ships into cable ships. At the end of December 2000 and beginning of January 2001, the two sister ships, *Prerow* and *Lodbrog*, arrived at the shipyard. The ships measured 140 metres in length and were over 20 metres wide, they were built in VEB Mathias-Thesen-Werft in Wiesmar between 1983 and 1985 and belong to the two shipowners from Denmark and France.

cable repair vessels

The technical documentation relating to these conversions was prepared by both the Norwegian company Vik-Sandvik and by Remontowa's own Design Office.

Work on these ro-ro ships included the conversion of their aft parts to enable them to carry out the inspection and repair of submarine telecommunication cables. In addition, the ships' sterns took on the typical look of cable ships; with two aft parts rollers serving to lay and collect cables from the seabed. Harbour loading is mainly performed in the midship section.



The principal conversion involved the installation of six cable tanks (two main tanks and four spare) in the area previously accommodating the car decks; a working hangar was placed above the tanks. The hangar is used for storing transportation equipment (for the loading and laying out of cables) such as: special winches, cable drum engines, diverters, special troughings (channels) for leading cables. Both sides of the hangar were supplied with workshops for the connection, repair and testing of cables. These workshops were equipped with an x-ray processing room complete with x-ray equipment. A special A-frame for the lowering of the ROV device (robot for underwater work) was fitted on the portside.



A new medium voltage power station with a power capacity of 9 MW was installed on each ship to supply power to the cable units and four tunnel thrusters, which are essential for the dynamic positioning of the ship whilst at work. Power is supplied by four new generating sets consisting of Wartsila engines and generators supplied by the Alstom. A new emergency generating set was also installed in the new compartment. The old tunnel thrusters were replaced by new versions with greater diameter and power. In all, many of the ship's existing systems were replaced, for example each ship was equipped with two new steam boilers and approx. 220 km of new cabling were replaced on both ships.



The ships were also equipped with a modern Vessel Management System (VMS) and Power Management System (PMS), new switchboards 6.6 kV, 380 V, 220 V and an emergency switchboard were installed and connected, new navigation and communication units were installed, with Alstom's new ADP dynamic positioning system being used for ship control during cable laying. A new high-standard superstructure was constructed along with the bridge.



Each ship was also equipped with a cinema, sauna, multi-gym, swimming pool, computer games room, three crew lounges, a modern galley and refrigeration storage. The following systems were completely new to each ship: sanitary, ventilation, air-conditioning, sea water treatment (a system transforming sea water into drinking water by means of reverse osmosis), incinerator, garbage impactor and bilge water separator. New life saving equipment was also installed, these included, two life boats, one fast rescue boat and one working boat, new rafts and a new CO2 extinguishing system.



Some old units that remained onboard and were inspected and repaired, one of the major repairs undertaken in this category was the total overhaul of the main engines.



As a result of the conversion, the breadth of each ship was increased from 20.5 to 23.3 m and the draft from 6.45 to 7.23 m whilst the load capacity was reduced from 6.704 to 4.500 dwt.

The ships went into operation in early 2002. The owner of c/s *Lodbrog* is now the Danish Alcatel Submarine Networks Marine A/S, whilst c/s *Ile de Re* (formerly *Prerow*) belongs to the French owner – Louis Dreyfus Armateurs.