

## NEW ITALIAN SURVEYING VESSEL « STAFFETTA »

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At the close of the Second World War, the Italian Navy no longer possessed any survey ships, yet was faced with a considerable amount of surveying work to be done.

The *Azio* had been adapted for hydrographic operations, but its age and equipment rendered it inadequate for the numerous surveys required along the coasts of Italy.

The problem of rebuilding a survey fleet is one that has now been thoroughly dealt with, and at the date of writing, a partial solution has been reached.

The *Staffetta*, which takes its name from a former Italian survey ship actively engaged in hydrographic work along the coasts of the Red Sea and Indian Ocean (1898-1914), was commissioned in February 1953. It is the first of a number of units assigned to the Italian Navy Hydrographic Institute; two others will consist of a former pair of fast minesweepers now undergoing conversion. The present ship, formerly a Canadian sloop, has been enlarged and completely refitted inside and out for hydrographic duty by the Lunensi Shipyards at La Spezia.

The main characteristics of the *Staffetta* are as follows:

- Length: 63 meters,
- Beam: 11 metres,
- Mean draught: 4.5 metres,
- Displacement: 378 tons.

The ship is equipped with two tubular boilers actuating a triple-expansion alternating engine developing 3000 HP and a top speed of 17 knots. Its cruising speed is 11 knots, and it has a range of 6 000 miles. There are four sounding boats, consisting of two motor boats and two sounding launches. The former are 6.50 metres long and draw 70 cm., a feature which suits them particularly for shallow-depth surveying. They are equipped with portable Atlas-Werke echo sounding machines. Each of the 8.50 metre sounding launches also carries an Atlas-Werke echo sounder, with the projector fitted to the hull; berths and other appropriate fittings provide a relative degree of self-sufficiency and enable surveys to be carried out over a period of several days with no support from the ship. All four craft contain the necessary equipment for sounding purposes, including azimuth circles, station pointers, binoculars, wire-sounding equipment, magnetic compasses, and radio and radio-telephone apparatus operating on 48 Kc/s for communication with the ship.

During survey expeditions, the vessel carries the following complement: 11 officers, 19 petty-officers, and 84 crew. Accommodation is also provided for two university professors during oceanographic expeditions.

Hydrographic equipment carried on board consists of the following:  
4 echo-sounding machines, including:

2 Atlas-Werke instruments operating on 30 Kc/s, for depths up to 1 600 metres;

1 NMC Submarine Signal Corp. instrument, for depths up to approximately 7 000 metres;

1 Carpentier instrument for average and shallow depths;

1 Lucas sounding line for greater depths;

2 Magnaghi sounding lines for shallow depths;

1 Pitometer log, with indicators in the chart room, on the bridge and in the engine room;

1 SAFAR P 600 sound detector.

Navigational equipment consists of two magnetic compasses and a gyro-compass of the Anschutz type located below the upper deck, with six repeaters distributed as follows: one on the bridge, two on the bridge wings, one on the upper bridge, one in the sounding room, and one near the steering control system. Hydrographic operations are controlled from the upper bridge, which has been specially installed and fitted up for this purpose. All the hydrographic data is collected and analysed in a large drafting room furnished with two well-lighted tables. This room is located near the chart room, within easy reach of the bridge.

In addition to fixed equipment, the ship is provided with every type of instrument required for triangulation and position fixing during the sounding operations; these consist of theodolites, tacheometers, stadia rods, azimuth circles, sextants, station pointers, protractors, etc. A precision instrument workshop is equipped for minor repair work.

The vessel's radio installation provides long and short distance communication facilities. All the wireless apparatus is located in quarters aft of the bridge, except the VHF instrument used for short-distance radio-telephone communication, which is set up in the chart room and has remote control connections on the bridge and upper bridge.

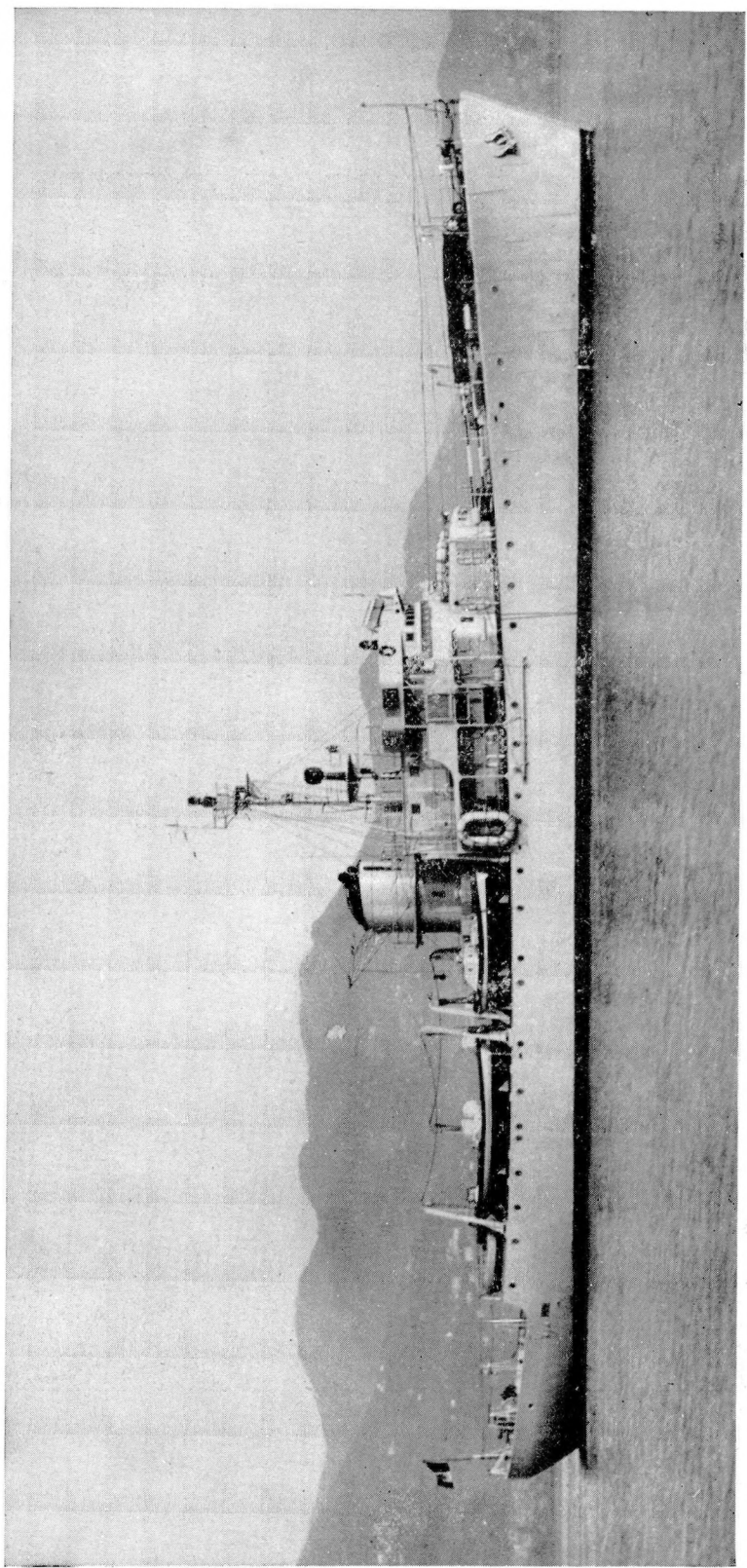
Electric power for the vessel's equipment is supplied by two plants capable of independent operation and of meeting servicing requirements individually. One of the plants consists of a turbine-driven generator and an alternating-engine-driven generator; the other is composed of two Diesel-electric units, and is intended to be used when the boilers are out of operation or in case of emergency. The shipborne equipment may also be powered from shore.

For bottom sampling and for possible use during wire-dragging operations, there is a 20-HP winch with 5 000-metre cable built in Turin by the Pera Works. An oceanographic laboratory containing a complete set of oceanographic instruments is equipped for the chemical analysis at high and low temperatures and the microscopic analysis of samples obtained.

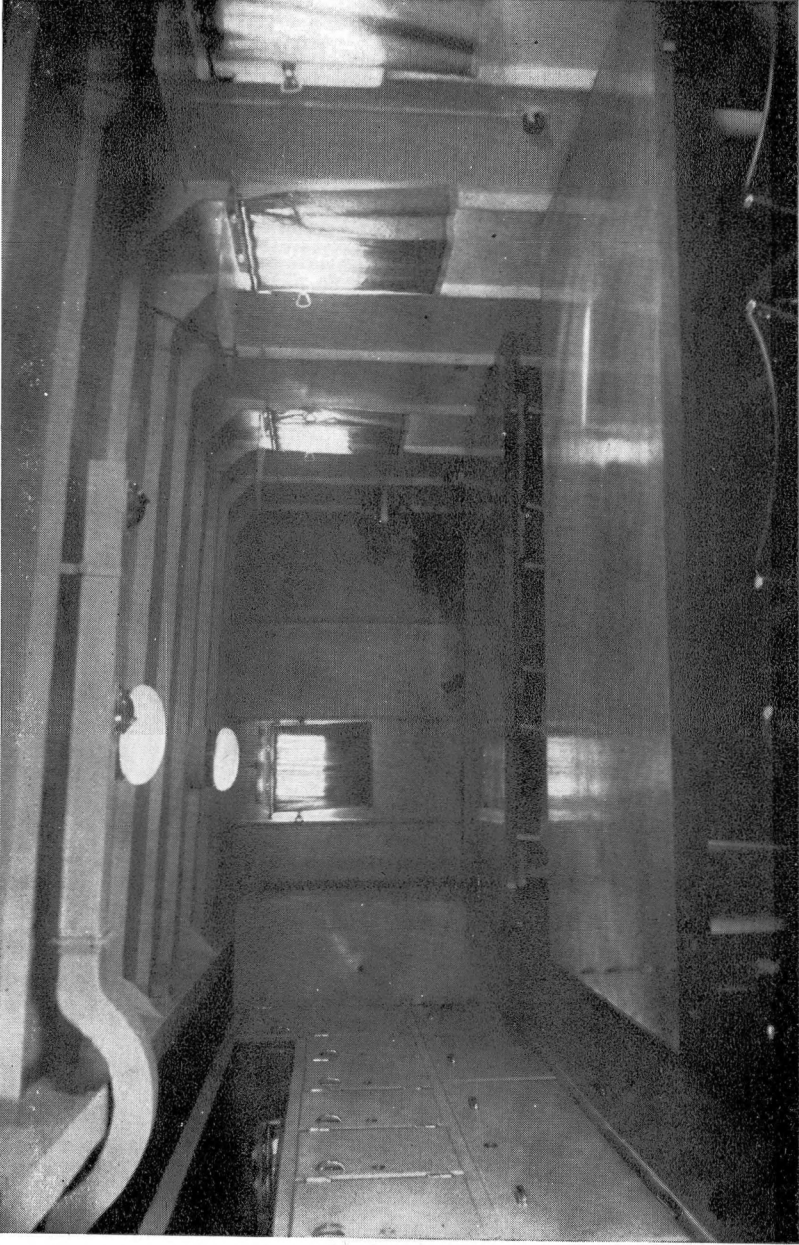
A photographic laboratory provides for the development and immediate printing of photographs taken during surveys.

Health facilities consist of an infirmary furnished with an operating table and the equipment needed for treating urgent cases; if required, space is available for conversion into a sick bay.

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Italian Surveying Vessel « Staffetta »



Drafting Room.