



Unveiling the name at the Santierul Naval Constanta shipyard in Romania

## Romanian shipbuilder looks to the future with new MR1 series

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**Histria Shipmanagement is breaking new ground with its EcoMax series MR1 tankers**

*Histria Atlas* is the first tanker in an EcoMax series of three plus three 180 m-long, 41,000-dwt MR1 tankers. The series is the culmination of five years of development by SNC, Histria Shipping and Italian class society RINA – and builds on its owner's experience of building customised vessels for the tanker trades.

Histria Shipmanagement, the vessel owner, benefits from being part of a group that has the capability to design, build and operate its own ships. As such it can set its own design and vessel parameters, work with preferred suppliers, and construct and supervise newbuilding projects in its own shipyard.

The company is led by Gheorghe Bosinceanu, a master mariner who has been instrumental in the revival of shipping in Romania. In 2002 he took over the Santierul Naval Constanta (SNC) shipyard and ordered a series of IMO 3 oil/chemical tankers in the 37,000-dwt to 41,000-dwt range.

Building on this experience, Mr Bosinceanu requested an optimised MR1 design with specific cargo capabilities:

- Maximum cargo intake in shallow draft ports

- Carry IMO 2 and 3 cargoes as well as clean and dirty products
- Cargo control from the bridge

This has resulted in the 'EcoMax' MR1 dimensions of an overall length of 180 m, a breadth 32.26 m and a design draught of 10.6 m with superior cargo intake:

- Nafta = 34,000 tonnes at 10.50 m draught, specific gravity 0.70 tonnes/m<sup>3</sup>
- Gasoline = 36,000 tonnes at 10.80 m draught, specific gravity 0.74 tonnes/m<sup>3</sup>
- Jet fuel = 38,600 tonnes at 11.20 m draught, specific gravity 0.80 tonnes/m<sup>3</sup>
- Gasoil = 38,700 tonnes at 11.20 m draught, specific gravity 0.84 tonnes/m<sup>3</sup>

At the naming ceremony RINA chief executive Ugo Salerno explained the genesis of the vessel: "George [Bosinceanu] came to me and said he wanted a tanker capable of carrying as much cargo as possible for the size, and a sustainable vessel definitely using less fuel than the competition.

30% less fuel

"To achieve this, we [RINA and SNC] used the latest design technology. The result is a vessel that uses 30% less fuel, with a reduced lightship weight, capable of carrying 50,000 m<sup>3</sup> of cargo, giving a cargo capacity with a density of 1.54 tonnes/m<sup>3</sup>. This is approximately 10% to 20% better than contemporary vessels in the sector."

Mr Ugo was keen to stress that the latest design technology included working with new computer modelling software. This was developed by ICE Pronav Engineering (part of ICE Marine Design), which developed an AVEVA Marine 3D model for the engine room of the ship, detailed design drawings and production information. The tanker was developed to Liberian flag rules with LISCR Hellas' general manager Michalis Pantazopoulos present at the naming ceremony.

The cargo arrangement is laid out with 10 tanks each equipped with 500 m<sup>3</sup>/hour Framo hydraulic pumps, giving a loading rate of 3,750 m<sup>3</sup>/hour and a discharge rate of 3,000 m<sup>3</sup>/hour. The Framo brand is a favourite with Histria Shipmanagement.

"We have ships in the fleet that have run Framo pumps for 14 years without any problems," said Histria technical director Marius Szabo.

The cargo-monitoring system is provided by Honeywell Process Solutions of France, with VAF Instruments BV of the Netherlands supplying the oil discharge monitors. The cargo control is duplicated on the bridge, and a special feature is the walkway around the front of the bridge (see image) allowing a bird's eye view of cargo operations. A portable cargo-control system is supplied by MMC (Europe) Ltd, and the pressure vacuum valves are provided by Bay Valves of Denmark.

Polarmarine-brand washing equipment is fitted in the tanks, and Danish manufacturer Alfa Laval provides the cargo heating and the PureBallast 3.1 ballast water treatment system. "I made a detailed study of the ballast water treatment systems available and chose PureBallast 3.1 for its ease of use by the crew," said Mr Szabo.

All the hull construction is fabricated by SNC using SNC-developed equipment in Romania. Wages for skilled heavy-industry workers in Romania are lower than in Germany and Norway, two favourite destinations for workers trained by SNC. In response, SNC has recruited, on contract, a

small number of Vietnamese shipyard workers for welding and painting. All hull and tank coatings have been supplied by Jotun.



Framo is well known for pumps, but also supplied the thruster hydraulic controls

## Fuel and engines

The other main foreign input is South Korean: the Doosan-built MAN Energy Solutions 6S50ME - C9.5 (6,480 kW at 89 rpm). This is a Tier II engine (the keel of *Histria Atlas* was laid in 2016) driving a Wärtsilä-supplied drivetrain of shaft and a 6.5-m four-blade fixed pitch propeller. The rudder is controlled by MacGregor Norway AS steering gear.

The range of *Histria Atlas* is 16,800 nautical miles with a service speed of 14 knots, with a consumption of 20 tonnes per day of MDO. No scrubber was visible in the engine room.

“Few tankers in this sector are fitted with scrubbers,” said *Histria* fleet chief engineer Nicolae Berechet. “There isn’t the space.”

When IMO 2020 is in force, *Histria Atlas* will burn compliant fuel or MDO. “We already have experience of switching fuels when sailing into ECAs,” said Mr Szabo. *Histria Atlas* has a 1,330 m<sup>3</sup> main fuel tank and a 410 m<sup>3</sup> MDO fuel tank, giving a potential seven days steaming in an ECA.

On the main deck there is a 12-tonne capacity Tech Flower of South Korea hose-handling crane amidships, and a Fuchs Fordertechnik AG crane. MacGregor winches and windlasses are fitted to handle the anchors and chains, which are from China (Meng Moa). The 29-m-long embarkation ladders from Devil are strategically located around the main deck

The accommodation is reached from either side of the main deck, and in conventional fashion access to the machinery space, rest rooms, scullery and bridge is through a central stairway.

On the bridge is a Yokogawa PT-900A autopilot stand, Yokogawa gyro and electronic compass, and a Navi-Sailor 4000 ECDIS. There is also a JCR NWZ-208 dual ECDIS with Transas 4000MFD base station.



The other navigation and communication equipment consists of JCR X-band (model JMR-9225-6XN) and S-band radar (model JMR-9230-SN) complete with 26-inch displays, and ancillaries including junction boxes. JRC also supplies the (D)GPS navigator (model JLR-7800), which includes a digital highway function to display waypoints and distance calculation with Rhumb or Great Circle routing. A traditional-looking analogue speed-log from Yokogawa (model EML-500 HV-1) measures speed electronically and can receive back-up signals from the GPS, but also comes equipped with up to 300 m of cable for traditional speed measurements.

Overall, *Histria Atlas* takes the MR1 design to a new level. One shipbroker attending the naming ceremony pointed out that the vessel is actually above its class in many features and would be the first choice of many charterers in a like-for-like market. Histria Shipmanagement is going to operate the vessel in the spot market, aiming to take advantage of the freight rate premium expected during the IMO 2020 marine fuel sulphur cap compliance period.



Yokogawa autopilot stand on bridge of Histria Atlas

#### Histria Atlas MR1 Tanker Specifications

Length: 180 m

Breadth: 32.26 m

Depth: 17.0 m

Draught: 10.6 m design / 11.1 m scantling

Deadweight: 37,000 design, 40,000 scantling

Cargo Capacity: 49,500 m<sup>3</sup>

Segregations: Six (double valves)

Main engine: MAN Energy Solutions 6S50ME-C9.5

Service speed: 14.0 knots

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