

EcoMax tanker tailor-made for MR1 trades

14 Jun 2019 by Craig Jallal

***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 length overall 180 m, 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/m³
- Gasoline = 36,000 tonnes at 10.80 m draught, specific gravity 0.74 tonnes/m³
- Jet fuel = 38,600 tonnes at 11.20 m draught, specific gravity 0.80 tonnes/m³
- Gasoil = 38,700 tonnes at 11.20 m draught, specific gravity 0.84 tonnes/m³

According to Histria Shipmanagement, *Histria Atlas* can carry 12% more cargo than traditional vessels with the same draft and beam, and the shallow-draught design maximises cargo intake at the draught-restricted ports typical of the MR1 trades in the Black Sea, Mediterranean and Middle East – the arc-shaped region that dominates the MR1 trades.

Histria Atlas is the first tanker in the EcoMax series of 41,000-dwt MR1 tankers. *Tanker Shipping & Trade* attended the naming ceremony in April at the Santierul Naval Constanta yard in Constanta, Romania.

Attendees included Cristian Sporis, regional corporate director of Raiffeisen Bank Romania, which has supported the Constanta shipyard since Mr Bosinceanu took it over and has financed 10 previous Histria newbuildings constructed at SNC. Another banker attending the naming ceremony was George Arcadis, the chief representative of ABN AMRO Bank NV in Greece, and another long-time supporter of Mr Bosinceanu. Together with legal advisors Montanios & Montanios LLC of Cyprus, these entities have been the financial and legal foundation supporting Mr Bosinceanu’s vision of an optimised MR1 tanker.

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.

“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 m³ of cargo, giving a cargo

capacity with a density of 1.54 tonnes/m³. This is approximately 10% to 20% better than contemporary vessels in the sector, while the physical dimensions of 180 m long, 32.26 m wide and 17.00 m draught are within the limits set by the majority of the ports in the main MR1 trading regions.”

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 engineroom 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.

“We have ships in the fleet that have run Framo pumps for 14 years without any problems”

The cargo arrangement is laid out with 10 tanks each equipped with 500 m³/hour Framo hydraulic pumps, giving a loading rate of 3,750 m³/hour and a discharge rate of 3,000 m³/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.

Framo also supplied the two 650 m³/hour ballast pumps and the hydraulic controls for the Wärtsilä bow thruster. “We have a long relationship with Histria, and we are experts in hydraulic control. It is not generally known that we produce a bow thruster control system, but it is available for those clients who prefer our systems,” said Framo’s marine pumping systems area sales manager Hakon Nordeide. The controls for the bow thruster are duplicated on the bridge wings.

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.

The theme is very much mainstream European and Scandinavian equipment suppliers at the core of the ship, with 80% of the equipment sourced within the EU. The safety equipment is provided by German suppliers: Maritime Protection (inert gas), Minimax GmbH MX2000 (fire-fighting equipment), and Hatecke (life-saving equipment).

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.

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 engineroom.

“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 m³ main fuel tank and a 410 m³ MDO fuel tank, giving a potential seven days steaming in an ECA. Regarding the fuel system, Boll & Kirch Fifterbau GmbH supplied the fuel filters, GEA Westfalia the separators, and Azcue Pumps of Spain the fuel pumps. There are three Yanmar generators (3 X 900 kW) and a Lindenberg Anlagen emergency generator rated at 200 kW.

Further in the engine room is a Kangrim Industries Co Ltd of South Korea auxiliary boiler rated at 12 tonnes per hour and emergency boilers (1.6 tonnes per hour). The Danish Crane Building AS overhead crane undertakes the heavy lifting in the engine room, and compressed air is supplied by J.P. Sauer & Sohn compressors. The heat exchangers are from Sondex AS with thermoregulating valves from Clorius Controls, and the expansion joints and elastic suspensions are from Broneske GmbH of Germany.

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.



Yokogawa autopilot (750w).jpg

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.

The JCR IMO-compliant echosounder (model JFE-380-22) has a 6.5-inch display and a memory function allowing the recording of depths for up to 24 hours.

The IMO-approved AIS module (model JHS-183) from JRC features a guard-zone function, alerting the bridge about any traffic straying into a pre-set zone around the vessel. On the bridge is a Cassens & Plath (Reflecta model) magnetic compass mounted in a traditional-looking fibreglass pedestal with a pair of soft iron spheres on either side of the binnacle. The electronic version is a dual gyro CMZ 900D model from Yokogawa.

The ship is equipped with a WEMPE master clock on the bridge and slave clocks located in strategic locations. A digital Walker 2050 Mk2 Anemometer has a simulated analogue display giving relative wind speed and direction. Wind activity is recorded on a Walker P1250 Intelligent Wind Alarm System and data can be downloaded onto a USB stick.

The voyage data recorder, supplied by JRC, is fitted in two parts. The NDV-1900 visual display unit has a 7-inch colour display screen, and a float-free release unit (model NDH-338) is contained in a protective capsule.

On the communication side, the GMDSS VHF radiotelephone from JHS (model 770-S) has a direct call facility, and ship-wide intercom and a deck-side loudhailer. This is integrated into the AIS, and a touchscreen allows instant Digital Service Calling (DSC) messaging to nearby ships. The alternative radiotelephone is also a JHS system (model JSS-2150). The bridge console also contains Inmarsat transceivers and an NCR-333 Navtex. The uplink is by JCR JUE-501 fleet broadband antenna.

There is also a ship-wide distress message system with remote station. The steering space acts as the citadel and is equipped with a GMDSS radiotelephone (model JHS-770-S) and a GPS position reporting system provided by Iridium ASE CIT-01. Handheld radios are supplied by ATEX (HT 833 models).

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.

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 m³

Segregations: Six (double valves)

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

Service speed: 14.0 knots

[SHIP BUILDING](#) [SHIPBUILDING & DESIGN](#) [TANKER SHIPPING & TRADE](#) [TANKERS](#)

Source: <https://www.rivieramm.com/news-content-hub/ecomax-tanker-tailor-made-for-mr1-trades-55187>