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## IMOIIMAX – a new vessel concept focusing on flexibility

The IMOIIMAX chemical tanker is a 50,000 DWT MR tanker designed to transport vegetable oils, chemicals as well as clean and dirty petroleum products. The vessel is equipped with 18 tanks of the same size, each with a capacity of 3,000 m3, for greater cargo flexibility. A large number of innovative technical solutions have been implemented, which together, when sailing at service speed, result in 10-20% lower fuel consumption compared with other vessels of the same size.

The concept has been developed by Stena Teknik together with the Chinese shipyard Guangzhou with which Stena Bulk placed an order for ten IMOIIMAX tankers in 2012. The first tanker – the Stena Impression – has been delivered and the naming ceremony will take place in Singapore on 4 February. The remaining nine tankers will be delivered until 2017.

"Flexibility has been a key consideration during the development of the IMOIIMAX concept. The configuration of several small tanks provides for considerable flexibility in regards of cargo combination,



IMOIIMAX - Stena Impression

something that fits in very well with our existing logistics system. The fact that the concept, with its many innovative technical solutions, will result in energy savings is naturally a major advantage", says Erik Hånell, CEO of Stena Bulk.

The Stena Impression is owned by a joint venture of which Stena Bulk and Golden Agri (GAR) each own 50 percent. The ten IMOIIMAX tankers will trade in Stena Weco's global logistics systems, which already employ some 50 vessels. <a href="http://www.stenaweco.com/">http://www.stenaweco.com/</a>









Some of the technical solutions that will result in more energy efficient consumption and greater logistic flexibility:

- Main engine auto-tuning
   With an auto-tuning system, the combustion process in each cylinder is continuously automatically controlled for optimal main engine performance.
- More efficient boiler with recovery from multiple heat sources

  The vessel is also equipped with an exhaust gas multi-inlet composite boiler, one of the very first to be installed. This boiler not only recovers energy from the main engine's exhaust gas but also recovers the exhaust gas from the auxiliary engines.



In addition the boiler has an oil-fired section that can be used in port, thus avoiding the need to run the larger oil-fired boilers to heat the vessel. This, together with main engine autotuning and part-load optimization of the auxiliary engines, will result in very energy efficient consumption.

## Recovery of propeller energy loss

All propellers lose some of the energy input in the rotating water behind the propeller. With the IMOIIMAX, the energy loss is recovered by a Hub Vortex Absorbing Fin being fitted.

- Aerodynamic design of the accommodation and bridge
  - In heavy weather, wind resistance can be significant. The streamlined design of the accommodation and the bridge means that the IMOIIMAX is less affected by wind resistance than other similar vessels.
- All cargo tanks are designed to carry any type of cargo the vessel can transport
   The IMOIIMAX has 18 cargo tanks. They are all the same and are designed to hold a
   maximum of 3,000 m³, i.e. the maximum volume permitted for the special-type cargoes the
   vessel can transport.

## Effective tank-cleansing system

The flushing system installed ensures that the cleansing process is optimised and since four tanks can be washed at a time, the time between discharge and loading can be minimized.

Additional material as well as film material can be found on Stena Bulk's website: www.stenabulk.com

Technical data for an IMOIIMAX tanker:

Length: 183 metres; beam: 32 metres; deadweight: 50,000 tons

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With offices in six countries, Stena Bulk is one of the world's leading tanker shipping companies. The company controls a combined fleet of around 100 tankers. Stena Bulk is part of the Stena Sphere, which has more than 20,000 employees and sales of SEK 60 billion. www.stenabulk.com