



## **Successful Demonstration of the ME-LGI Concept**

### **Mitsui tests first commercial model on HFO and methanol**

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Mitsui Engineering & Shipbuilding Co., Ltd. (MES) – the MAN Diesel & Turbo licensee – recently demonstrated the liquid-gas-injection concept successfully in Japan. The successful demonstration took place on 17 June, 2015 using the very first ME-LGI engine to ever be commercially produced. The engine, with the type designation 7S50ME-B9.3-LGI, is bound for a vessel currently under construction by Minaminippon Shipbuilding Co., Ltd. for Mitsui O.S.K. Lines, Ltd.

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#### **A natural step**

Ole Grøne, Senior Vice President – Low Speed Promotion & Sales – MAN Diesel & Turbo described the event as a significant milestone in the development of Diesel technology and said: “The immediate market acceptance of our ME-GI (Gas Injection) engine confirmed the growing demand for low-sulphur, non-HFO options in the face of increasingly stricter sulphur limits in fuel. In turn, extending our dual-fuel engine programme with an ME-LGI unit that can run on liquid fuels was therefore a natural step.”

He continued: “The interest in our ME-LGI engine confirms this dual-fuel, low-speed trend and will offer even more alternatives to HFO, which – apart from methanol – will include LPG, dimethyl ether (DME), and (bio-) ethanol, as well as several other, low-sulphur, low-flashpoint fuels.”

Grøne concluded: “We welcome our partners’ interest in our technology and acknowledge their taking the lead in proving the ME-LGI concept. We are confident that their faith will be rewarded in the immediate future.”

#### **Demonstration**

Mitsui’s ME-LGI demonstration involved four separate stages:

1. Change to methanol running.
2. Methanol running 50-75%.
3. Load variation.
4. Change to fuel-oil running.



The event took place at the company's Tamano works, near Okayama in the western part of the mainland, and was witnessed by approximately 60 interested guests from the marine industry in Japan.

### **The ME-LGI concept**

The ME-LGI concept is an entirely new concept that can be applied to all MAN Diesel & Turbo low-speed engines, either ordered as an original unit or through retrofitting. With two injection concepts, the ME-GI and the ME-LGI concept greatly expand the company's dual-fuel portfolio and enables the exploitation of more low-flashpoint fuels such as methanol and LPG.

The engine's 'ME-' prefix indicates that the new engine benefits from well-proven electronic controls that also encompass the fuel being injected by a so-called Fuel Booster Injection Valve. This innovative fuel booster, specially developed for the ME-LGI engine, ensures that a low-pressure, fuel-gas supply system can be employed, significantly reducing first-time costs and increasing reliability. The Fuel Booster Injection Valve will be introduced also on regular ME HFO engines, eventually.

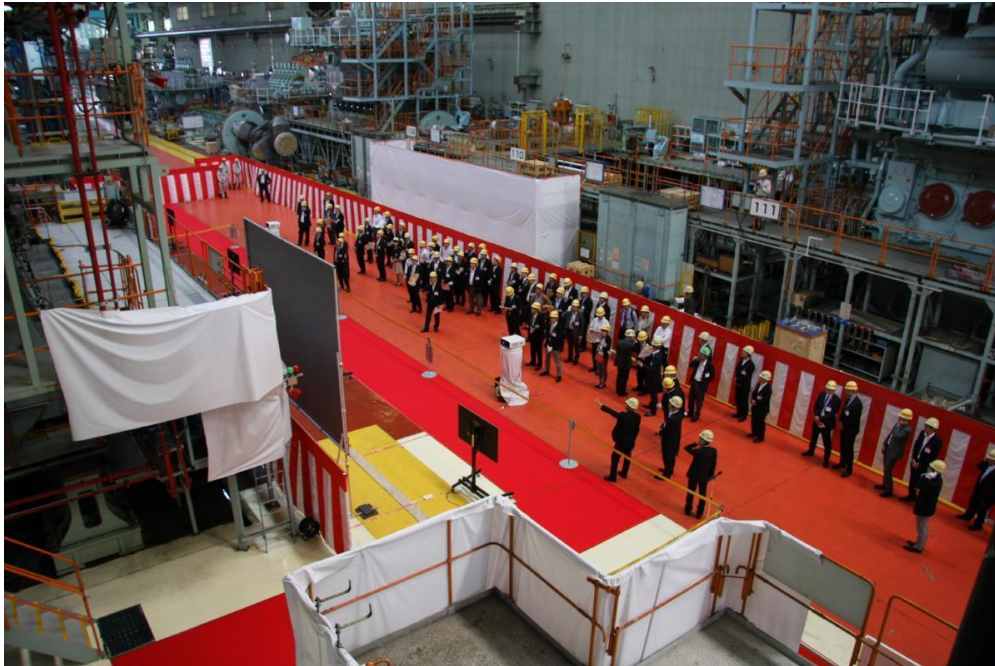
MAN developed the ME-LGI engine in response to interest from the shipping world in operating on alternatives to heavy fuel oil. Methanol and LPG carriers have already operated at sea for many years and many more LPG tankers are currently being built as the global LPG infrastructure grows. With a viable, convenient and economic fuel already on-board, exploiting a fraction of the cargo to power a vessel makes sense with another important factor being the benefit to the environment. MAN Diesel & Turbo has previously stated that it is already working towards a Tier-III-compatible ME-LGI version.



*The LGI combustion chamber consists of two LGI-fuel valves and two oil-fuel valves, the latter used for pilot oil when running in LGI-mode and as fuel valves when running in normal mode*



*The LGI parts, highlighted in yellow, are based on the familiar, proven ME-design*



*Scene from the ME-LGI demonstration at the Tamano works*

**About MAN Diesel & Turbo**

MAN Diesel & Turbo SE, based in Augsburg, Germany, is the world's leading provider of large-bore diesel engines and turbomachinery. The company employs around 14,500 staff at more than 100 international sites, primarily in Germany, Denmark, France, Switzerland, the Czech Republic, India and China. The company's product portfolio includes two-stroke and four-stroke engines for marine and stationary applications, turbochargers and propellers as well as gas and steam turbines, compressors and chemical reactors. The range of services and supplies is rounded off by complete solutions like ship propulsion systems, engine-based power plants and turbomachinery trains for the oil & gas as well as the process industries. Customers receive worldwide after-sales services marketed under the MAN PrimeServ brand.

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