

Local Communities



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IMarEST BeNeLux Branch - Technical Meeting

LNG as a fuel and consequences for the diesel engine

Speakers: Rasmus Teir
Positions: Product Director of the W32/W34DF
Companies: Wärtsilä, Vasa
Websites: <https://www.wartsila.com/marine>
Date: Thursday 5 April 2018
Time: 18:30 – 22:00
Venue: Delft University of Technology – 3ME Faculty – lecture room C (Isaac Newton)
 Mekelweg 2
 2628 CD Delft
Contact: IMarESTBeNeLux@gmail.com
Parking: P-Aula or P-3ME; see campus map on <http://www.tudelft.nl/en/contact/>.

Dear member or friend,

You are hereby cordially invited to the coming Technical Meeting of the IMarEST BeNeLux Branch. Details of the programme and additional information can be found below. Your attendance to this Technical Meeting will be much appreciated. I look forward to seeing you on the 5th of April.

Would you kindly let me know if you plan to attend this event by registering [online](#). Please register before Monday 2nd of April, so that we can order sufficient refreshments. Please note we have changed our policy concerning refreshments for non-members of IMarEST. We now kindly ask a contribution to refreshment costs of 5 euro's from non-members. The bank account number of IMarEST BeNeLux branch is: NL67 RABO 0364 6179 69 (no refunds).

Thank you in advance.

Yours sincerely,
 Erik-Jan Boonen – Honorary Secretary IMarEST Benelux Branch.

Detailed Programme

18:30 Welcome incl. coffee; meet other attendees
 19:00 Technical Presentation
 19:45 (Coffee) Break
 20:00 Technical Presentation
 20:45 Discussion / remaining questions
 21:00 Drinks / Networking event
 21:45 Closure

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Abstracts

During the past years LNG has been introduced as a fuel in the maritime sector thereby replacing MDO or HFO, although the latter option is kept open in Dual Fuel (DF) engines. Apart from an operational cost advantage, also low emissions are a main driver to adopt gas as a fuel. Normally a conventional diesel engine is the basis for a gas or dual fuel engine, but there are important technical differences:

- Most gas engines are mixture engines with gas injection before the turbocharger, in the inlet receiver or in the inlet ports. Direct gas injection into the cylinder at low/high pressure during/ after compression is another possibility.
- Gas does not auto-ignite so an ignition system is required, i.e. spark plug or micro diesel fuel injection, sometimes in a pre-chamber.
- The effective compression ratio of gas engines is lower than for normal diesel engines.
- The previous points influence NOx formation and the capability to achieve IMO Tier III levels.
- The air excess ratio must be carefully chosen with respect to the gas quality and the danger of knock and misfire, and must be controlled with throttle valve, waste gate or by-pass valve or variable inlet valve timing. This has an influence on dynamic behavior and in particular load pick up which may be an issue for gas engines.



About the Speaker

Rasmus Teir is a product manager who is passionate about developing flexible and efficient four stroke engines for the marine and energy markets. He has worked at Wärtsilä since 2002 in several expert and managerial positions, both within the marine and land-based energy businesses.

Since 2006, Rasmus has worked with the Wärtsilä 32/34 engine product family with a special focus on gas and dual fuel engine product development. In his current role, he leads the overall product strategy, costing and quality of this engine product family.

The Wärtsilä 32/34 medium speed engine product family is the largest of the Wärtsilä offering with over 4000 engines delivered and available in diesel, gas and dual fuel variants.

Wärtsilä is a global leader in advanced technologies and complete lifecycle solutions for the marine and energy markets, employing over 18,000 professionals, presence in over 70 countries and an annual net sales of approx. 5 billion EUR.