



# Industrial and Large Engines

**40** Splash Oil Systems for Crankcase Monitoring  
Leander Marquardt,  
Heiner-Joachim Katke, Andreas Reinke,  
Robert Brandt [University of Applied  
Sciences Stralsund]

**46** Ultra-low Emission  
Medium Speed Engine  
for EU Stage V  
Daniel Peitz, Dominik Gschwend  
[Hug Engineering], Koen Christianen  
[Anglo Belgian Corporation],  
Kati Lehtoranta [VTT Technical  
Research Centre of Finland]

**54** Combustion of Methanol  
Blended with a Fuel Additive  
in a CI Engine  
Rasmus F. Cordtz, Thomas B. Thomsen,  
Mads C. Jespersen, Jesper Schramm  
[Technical University of Denmark]



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Are you “Fit for 55?” The proposals that the European Union served up in July 2021 for delivering its Green Deal are hard for many industries and their stakeholders to digest. According to the EU, the maritime sector must also “make a fair contribution to decarbonizing our economy.” To ensure that this happens, from 2023 onward, the emissions from maritime shipping will gradually be included in the EU emission trading system. As the upper limits for the greenhouse gas content of the energy sources used by ships are reduced, sustainable fuels will be promoted. And from 2030, container ships and passenger liners will be required to use onshore power in ports. Overall, the measures that make up the Green Deal will require the shipping industry and other sectors of the economy in the EU, including private households, to reduce their net greenhouse gas emissions by at least 55 % compared with 1990 levels by 2030.

Alternative fuels are one means of achieving this target. The Technical University of Denmark is carrying out research into an additive that will improve the autoignition of methanol when used as a fuel for ships. Hug Engineering is taking a different approach. Together with its partners, it has developed an ultra-low-emission concept that uses a diesel particulate filter and an SCR system to keep the emissions from ships’ diesel engines below the threshold even for mobile machines.

A study carried out by Stralsund University of Applied Sciences aims to improve onboard safety. The aim is to detect the status of moving big end bearings indirectly by measuring the temperature of the oil around them, in order to identify the risk of an engine room explosion. News reports on industrial and large engines conclude this special issue.

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