



## Medium-Speed Engine Oil TBN Optimisation Study

### Overview

Reducing your fleet's maintenance costs and increasing its operational efficiency is a primary goal of ExxonMobil's engineering team. By helping you to optimise your fleet's lubricant make-up rates, reservoir levels and change-out frequencies, our engineers may help lower the total cost of lubricating your medium-speed engines.

Our engineers can help you optimise engine-oil TBN level and potentially improve the total cost of owning a medium-speed engine. Listed below are some of the skills and resources they offer.

### Description

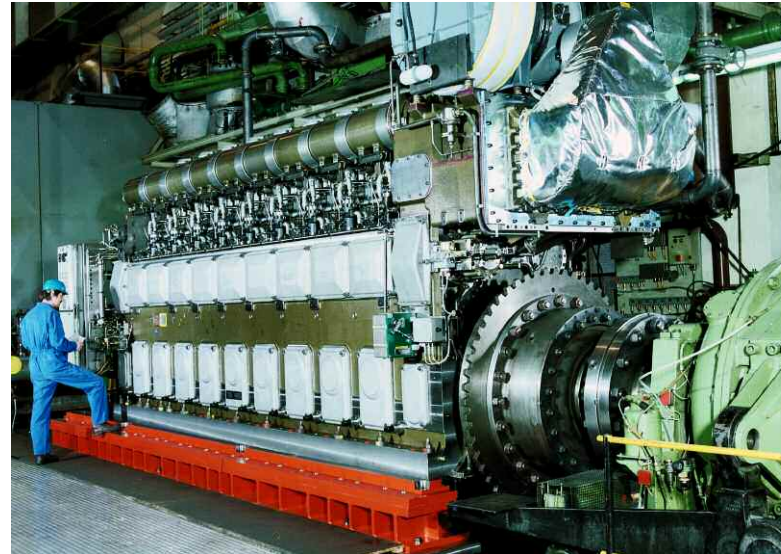
Supply you with engineering recommendations to optimise engine oil TBN levels to potentially improve the total cost of ownership of medium-speed engine lubrication.

### Application

- Collect and understand the baseline engine lubrication and maintenance conditions
- Assist you in setting up the appropriate onboard and/ laboratory sampling programme to facilitate the engine oil TBN optimisation
- Utilise proprietary ExxonMobil engineering software to assist in evaluating the ability to optimise the engine oil
- Provide lubricant recommendations to optimise the engine oil TBN level
- Consult with engine manufacturers as necessary on our recommendations
- Validate recommendations/findings with you to ensure accuracy and effectiveness

### Deliverables

- A complete documented study of the fleet's engine lubrication including base line data, engineering recommendations, and savings calculation correlating to each engineering recommendation
- Register engines and vessels in the Signum Oil Analysis database (a fee-based service), if needed
- Basic training as needed for your personnel in oil analysis and sampling procedures



*Optimising engine-oil TBN levels may result in reducing disposal costs by extending lubricant replacement frequencies and quantities.*

### Potential Benefits

- Reduced lubricant replacement costs by optimising lubricant make up rates, lubricant reservoir levels, and lubricant change out frequencies
- Optimise engine time between overhaul through optimising wear rates
- Reduce lubricant disposal costs by extending lubricant replacement frequencies and quantities