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LIFE MYSTIC

The LIFE MYSTIC project aims to test propulsion engines and generators fueled by a combination of diesel and methanol onboard of a Sanlorenzo superyacht, otherwise presently powered 100% by diesel fuel.

Member States of the International Maritime Organization (IMO), meeting at the Marine Environment Protection Committee (MEPC 80) in July 2023, decided to adopt the 2023 IMO Strategy on Reduction of GHG Emissions from Ships. According to IMO strategy, net-zero GHG emissions in the maritime sector should be reached in 2050 and no more in 2100 like in the previous regulation. Sanlorenzo decarbonization strategy aims to reach net-zero GHG emissions almost 10 years before. This ambition is also in line with the Fit for 55 package defined by the EU Green Deal that aims to reduce the EU's emission by 55% in 2030 compared to a 1990 baseline.

REDUCTION OF
GHG EMISSIONS
FROM SHIPS

2040 - SANLORENZO
DECARBONIZATION
STRATEGY

RETROFIT KIT
FOR BI-FUEL
ENGINES



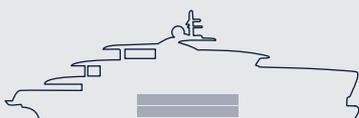
V



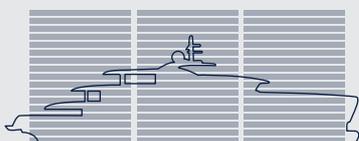
2.5 V



4.6 V



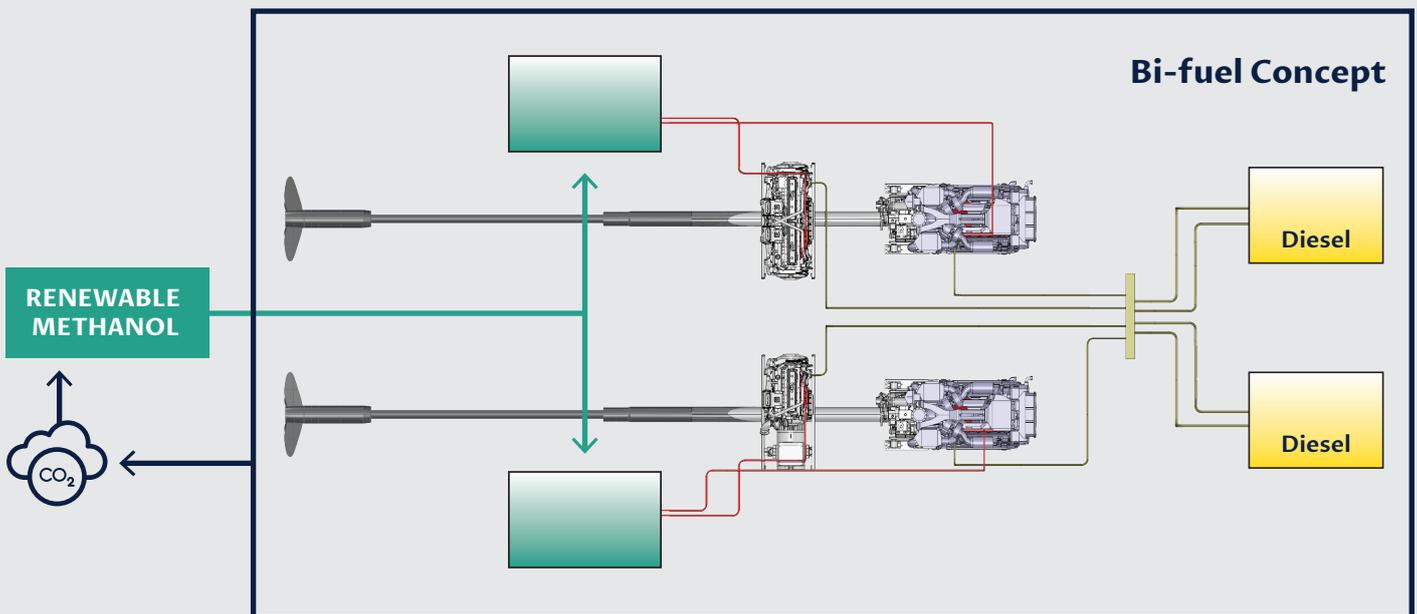
51 V



Global shipping, while essential for trade, is accounted for 3% of worldwide GHG. With the maritime industry responsible for transporting no less than 90% of world commerce, there is increasing pressure on the sector to reduce its carbon footprint. To reduce emissions and comply with the IMO emission rules and regulations, there are various technologies and methods, including engine retrofitting with after-treatment systems and the adoption of low carbon or zero carbon fuels. Methanol (MeOH) is one of the promising alternative fuels for future maritime transportation. It is liquid at environmental temperature, and it is already available in more than 100 ports at global level. If produced by renewable energy sources methanol becomes a carbon neutral fuel, supporting net-zero GHG emissions strategy.

MYSTIC PROJECT SCOPE

Developing and testing methanol bi-fuel engines and generators for a superyacht



Designing a retrofit kit for bi-fuel engines involves a careful engineering process to ensure the efficient and reliable combustion of two different types of fuels within a single engine, while ensuring a smooth and flawless transition to diesel only operation at any time, making these engines a perfect solution for a transitional market.

Impact of the project

Reduction of GHG emission

150 t/y CO₂eq

Reduction of primary fossil energy consumption

700 MWh/y

Reduction air quality contaminants

630 kg/y

- Reference: **LIFE23-ENV-IT-LIFE MYSTIC/101148420**
- Acronym: **LIFE23-ENV-IT-LIFE MYSTIC**
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- Total EU contribution: **2.890.733,40€**



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