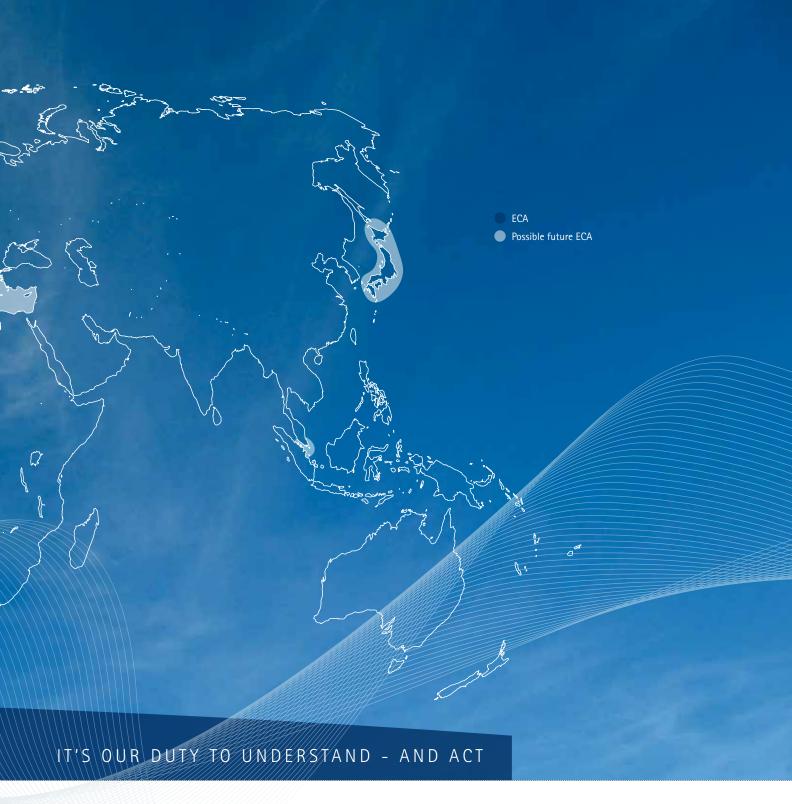




We work in close partnership with engine manufacturers and leading industry bodies to develop the very best exhaust after-treatment solutions for a wide range of applications.

Reliability is a fundamental criterion; Emigreen® solutions deliver high performance today and continue to deliver it tomorrow.



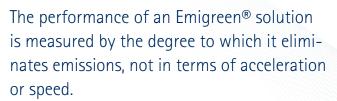
The International Maritime Organization (IMO) is actively working to reduce vessel emissions. ECA and Global Limits have been and are being cut dramatically.

The resultant legislation is changing the way vessels are designed and built. We have anticipated these developments by

creating, today, tomorrow's generation of DPF & SCR systems, all of which are integrated in a high performance exhaust silencer.

We wish to help you respond to the challenges you face by using state-of-the-art technology and delivering you the benefits of continuous improvement and open communication.





All Emigreen® solutions are highly efficient, irrespective of whether they are designed to eliminate carbon particulates (soot),  $\mathrm{NO_x}$  or sound. In the luxury yacht world, aesthetics also plays a major role. Particle residue on the deck or in the swimming pool are a thing of the past with our outstanding solutions, which merge seamlessly into the luxury yacht engine room for which they are designed. However, Emigreen® ensures that the performance of the engines is not affected in any way.



CONTROLLABILITY

Controlling your emission with an Emigreen® solution means access to all areas without limitations.

Emigreen® solutions are proactive. They monitor the system operation and intervene when required, and provide understandable and easy-to-use (remote) interfaces. Every Emigreen® control system is designed to be integrated in the vessel systems, seamlessly and with minimum impact on existing systems



Your luxury yacht can take you to the far corners of the earth; if it is equipped with an

corners of the earth; if it is equipped with an Emigreen® solution, it will also bring you back.

Reliability is essential for Emigreen® solutions, which are often mobile. A failed emission control system can, for instance, result in an expensive luxury yacht bobbing around in the sea like a cork. Therefore, Emigreen® engineers reliability into all of its solutions. Reliability means more than just the reliability of individual components. Providing early warning of a potential failure, building in redundancy and predicting required service are also aspects of reliability included in an Emigreen® integrated emission control solution.



# FOR THE SAKE OF OUR ENVIRONMENT

The Luxury yacht world is all about perfection, about creating the impossible and the most spectacular designs while having an eye for detail.

In this world, nothing can be left to chance. Emigreen® develops and employs the latest technology to reduce environmental pollution, and subsequently the total environmental footprint of the yacht to an absolute minimum.

### EMIGREEN IS YOUR EXPERT

- Chemical composition of exhaust gasses
- Fuel- and Lube oil composition affecting exhaust gas compositions
- Chemical reactions of substances
- Combustion process of engines
- Thermodynamics
- Noise and vibration
- Flow analytics

### EXHAUST GAS AFTERTREATMENT SOLUTIONS

- Emigreen® Delta Passive Diesel Particulate Filter systems (DPF)
- Emigreen® Alfa-Alfa Active Diesel Particulate Filter systems (DPF)
- Emigreen® MINOx Selective Catalytic Reduction systems (SCR)
- Emigreen® in-house developed sophisticated control systems

We provide emission control solutions that focus on:

- Soot reduction
- NO reduction
- Sound reduction

With the following products:

- Diesel Particulate Filters (DPF)
- Selective Catalytic Reduction (SCR)
- Integrated high-performance exhaust silencers
- Catalytic converters

We have anticipated the desire to drive down exhaust emissions by creating tomorrow's generation of DPF & SCR solutions all integrated in a highperformance exhaust silencer.

# THE EMIGREEN ROUTE TO SOLUTION PROVIDING

- Assessment of all technical aspects
- Design
- Specification
- Production
- Installation instruction

- Training
- Aftersales
  - Maintenance
  - Maintenance prediction
  - Performance monitoring

### FIELDS OF EXPERIENCE

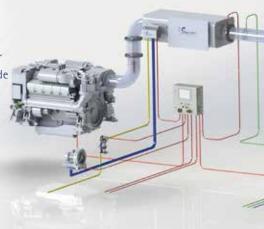
- Marine
  - Inland waterway
  - Ocean going and short-sea vessels
  - Offshore

- Luxury Yachts
- Energy
- Industry

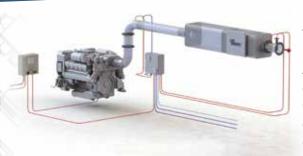
# Diesel Particle Filters (DPF)

Ceramic full-flow filters incorporated in the exhaust gas silencer filter out the soot. The soot collects against the porous surfaces of the filter elements and is periodically incinerated to reduce its volume and re-establish the permeability of the filter elements (filter regeneration). There are various strategies that can

be used for soot filtration and filter regeneration, Emigreen® can provide you with customised advice.



## Selective Catalytic Reduction (SCR)



The Selective Catalytic Reduction system reduces nitrogen oxide  $(NO_x)$  emissions. An aqueous ammonia solution, urea, is dosed and mixed with the exhaust gasses. Catalytic reactions convert the nitrogen oxides to harmless nitrogen  $(N_2)$  and condensation  $(H_2O)$ .

The basic system consists of a control and dosing system, a series of mixers and the catalyst integrated in the exhaust gas silencer. The system can be extended to include an oxidation catalyst and/or a diesel particulate filter.

# TO CREATE CUSTOM-MADE SOLUTIONS FOR OUR PARTNERS

# Special design

Emigreen has broad experience in really challenging circumstances. For example, an SCR and DPF system in one, to be connected to a wet exhaust system. Such a system focusses on the customers requirements as well as the required liability, controllability and performance of the provided solution.

When space is limited, science and technology must meet, sometimes in a customised design positioned above the engine. In partnership with the customer, Emigreen® can always create a solution to fit even the tightest space and meet the customer's requirements.



Space and weight saving solutions, yet more than fit for purpose



# FOR THE SAKE OF OUR ENVIRONMENT

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