Hybrid Propulsion

When the propulsion and auxiliary power of a ship is generated by a combination of diesel and electrical power.
Hybrid Propulsion

When should a ship owner consider a hybrid system?

- When the operational profile of a ship requires considerable variations in its speed.
- When the ship has to meet low or zero emission requirements.
- When a battery powered vessel needs to operate for long periods and needs a means of extending its range.

Additional benefits of hybrid propulsion systems

- Silent and clean power at low speeds and when anchored.
- Reduced fuel costs.
- Reduced waste gas emissions.
- Reduced noise pollution.
- Ability to provide short-term boosts to propulsion power.
- More flexibility in the positioning of the power plant.
- Extension in the autonomy of a battery powered vessel.
- Extended life and reduced maintenance costs for diesel engines.

Which choice is available in hybrid systems?

Hybrid systems can be designed using any combination of power generators and power storage components, such as diesel engines of any size, electrical motors and generators, and batteries. When zero emissions are required at all times hydrogen and solar power are the leading alternatives, usually in conjunction with batteries.

How can I find out more about hybrid systems for my situation?

A wide range of factors need to be studied when considering whether a hybrid system is suitable for a particular vessel. These include the power profile, operating range, emission requirements, maintenance aspects, plus weight and volume restrictions. The ship owner may also have personal preferences when it comes to environmental issues.

Alewijnse Marine Systems has built up extensive experience in hybrid power, having supplied systems for inland ships, tugs and luxury yachts. Alewijnse was also involved in the development and build of Nemo H₂, the ground-breaking tour boat powered by a hydrogen fuel cell and operated by Lovers on the canals of Amsterdam. This project made Alewijnse the first system integrator in Europe to complete such a project.

The engineers at Alewijnse welcome enquiries from ship owners and are always ready to discuss individual projects and specialised requirements. Working in partnership with our clients we set out to explore all the possible solutions, evaluate the advantages and disadvantages of each with reference to the customer’s brief, and finally present our recommendations in clear, concise language. Please contact us to find out more about hybrid systems for your ship.