

Energy management

Advances in automation technology enables ship operators to achieve significant energy savings by optimising HVAC and fluid machinery. Callenberg Technology Group is an expert in ship optimization with decades of know-how in designing efficient HVAC plant, paired with smart automation and benchmarking systems.



- Energy management solutions for HVAC and engine rooms on passenger, offshore, naval and merchant ships
- Over 75 installations delivered with a typical payback time of two years
- Our customers save 200 million kwh, 40 000 tonnes of fuel and 136 000 tonnes CO2 every year
- Winner of the 2015 SHIPPINGInsight sustainable technology award

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Energy management for passenger vessels

Environmental legislation and rising operational costs erode cruise & passenger industry's margins. It is increasingly important to control the most energy demanding processes on-board: propulsion, hotel operations and HVAC.

We deliver combine smart energy modifications of the mechanical, electrical and automation equipment with high efficiency components.

Our solution is scalable up to a total HVAC plant reconfiguration make-over, and can be implemented on new builds as well as sailing ships. We are an independent integrator and work with all major brands of mechanical, electrical and automation equipment for our energy management projects.

- Our energy and climate performance computer simulation enables us to offer a kWh-savings guarantee
- Benchmarking software makes it easy for crew to monitor and maintain optimised HVAC energy use
- Pre-installation HVAC system surveys identify areas where HVAC plant can be optimised for better air quality and comfort
- Officers and ship managers can take advantage of HVAC & energy efficiency training programs

Energy management for merchant vessels

The merchant fleet has taken advantage of the technologies we have deployed in the cruise market to save significant energy by automatically adjusting ventilation, combustion air supply and sea water cooling to engine room machinery.

Engine rooms have ventilation to maintain adequate temperature and to supply the diesel engine with combustion air. These systems are designed for operation in severe outside ambient conditions when the vessel is at full service speed. However, the engine load, room temperature and location of the ship will vary during the ships operation, resulting in an over capacity of the fans and pumps. This leads to large amounts of wasted energy in less severe conditions.

- Demand driven solution delivers predictable and measurable energy savings
- Callenberg's ER-EMT solution contributes to meeting IMO environmental regulations from 2013