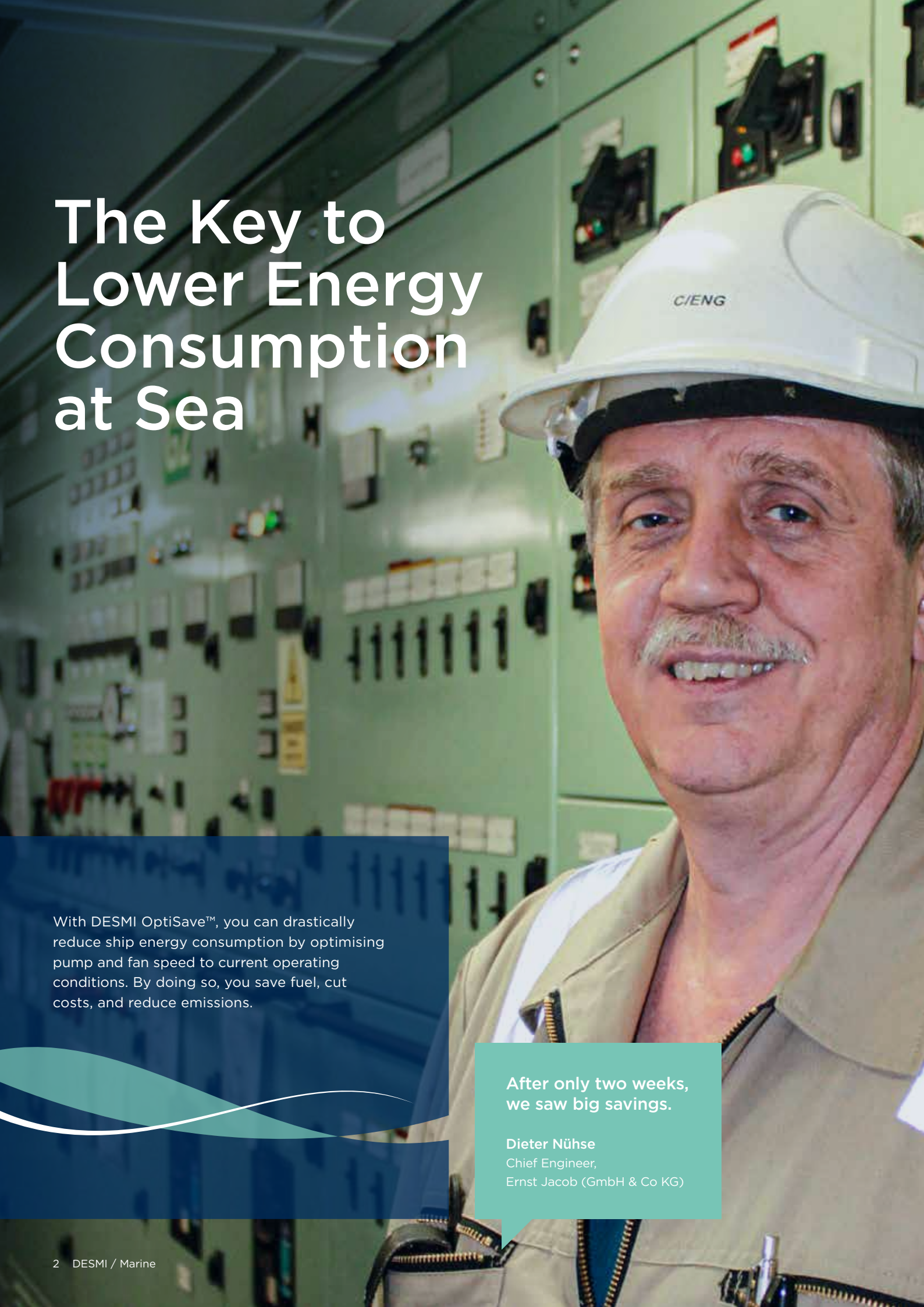
DESMI OptiSave™

Save fuel, cut costs and reduce emissions

Marine

DESMI
Make life flow

The Key to Lower Energy Consumption at Sea



With DESMI OptiSave™, you can drastically reduce ship energy consumption by optimising pump and fan speed to current operating conditions. By doing so, you save fuel, cut costs, and reduce emissions.

After only two weeks, we saw big savings.

Dieter Nühse
Chief Engineer,
Ernst Jacob (GmbH & Co KG)

You can use OptiSave™ with the following onboard systems

- ✓ Seawater cooling systems
- ✓ Steam condenser cooling system
- ✓ Fresh water cooling systems
- ✓ Engine room ventilation
- ✓ Cargo hold ventilation
- ✓ Pump monitoring
- ✓ Online vessel monitoring
- ✓ Customised solutions

Significant energy savings

Reduced OPEX

Prolonged pump and fan lifetime due to less wear and tear

Short return on investment

Fast installation with minimal changes to existing electrical system

Worldwide service and support

For more details and examples, visit **desmi.com**

Fueling Sustainable Change

Contributing to the Drive Towards a Cleaner Future

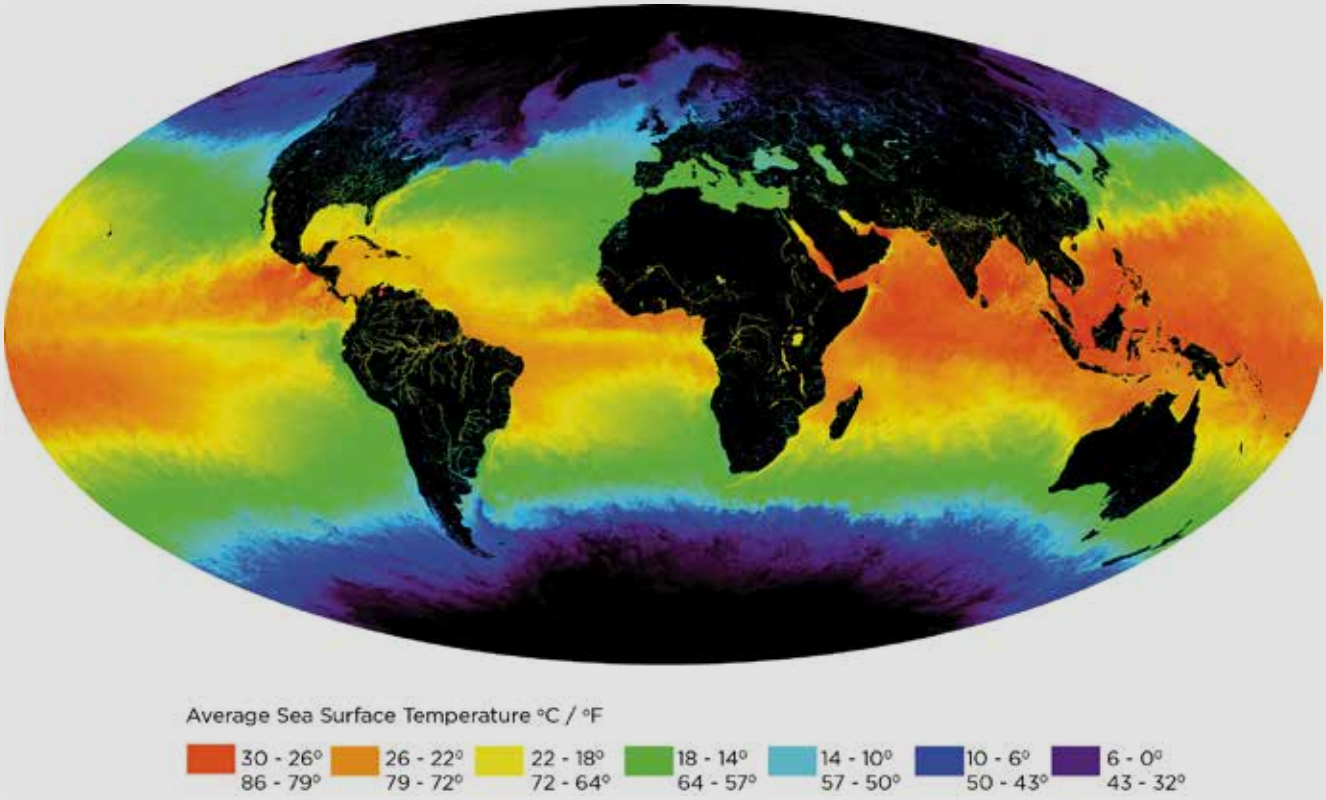
There are good reasons why you should be looking to reduce fuel consumption as a designer, shipowner, or operator.

First of all, fuel is the biggest single voyage-related cost item, and even small percentile consumption reductions can have a big impact on ship operating costs.

Second, reducing fuel consumption means reducing emissions and helps mitigate the climate impact of shipping. Today, shipping is a significant source of carbon emissions. By working towards net-zero emissions, the industry can continue to play a key role in global trade and prosperity while also contributing to the drive towards a cleaner future.

Reducing onboard energy consumption is an easy and effective way of reducing vessel emissions. This is exactly what OptiSave™ does, and it can make a big difference: With no major rebuilding or refitting, it will help you cut energy consumption on ships to save fuel, cut costs, and reduce emissions.

Why you can Save Energy by Optimising Cooling Systems



The cooling systems on most ships are designed to deliver sufficient performance with the engines running at 100% load in 32° Celsius seawater. Even though sea temperatures are rising, mostly they are still below 32° Celsius, and cooling system design conditions are rarely present – but the cooling systems still operate at full capacity and therefore consume more energy than needed.

By regulating cooling pump and fan performance according to actual demand, you can save energy: By regulating a cooling pump this way, you reduce its power consumption by 50% in 28° Celsius water – and savings increase as the temperature drops.

EXAMPLE
On a voyage from Singapore to Rotterdam, the average water temperature will be well below 32° Celsius for most of the trip, and a cooling system with OptiSave™ will use significantly less energy than one without this DESMI solution.

IMO

Compliance with IMO regulations

Reducing energy consumption is an efficient way of meeting the CO_2 emission reduction requirements stipulated in IMO MEPC 62, including Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP) regulations. And it contributes to reaching the IMO's net-zero emissions target by 2050.

What is OptiSave™?

Energy Saving Up to 90%

OptiSave™ continuously monitors operating conditions and adjusts cooling pump and fan speed accordingly. It takes several factors into consideration, including freshwater, sea water outlet, and electric motor temperatures, pump discharge pressure, and main engine load. When it is possible to achieve sufficient cooling performance at reduced pump and fan speed, the system automatically reduces cooling unit speed and energy consumption.

Modular and safe system

The OptiSave™ system consists of a master control panel (MCP), a user interface, a frequency converter for each pump or fan in the system, and a number of temperature sensors that are integrated with the MCP via local I/O stations or TCP/IP. OptiSave™ is modular and can be expanded as needed, and you can integrate it fully in the ship's IAS/AMS/CAMS/ICAMS system.

OptiSave™ is designed for safe and dependable performance. In the unlikely event of sensor malfunctions or other technical issues, all cooling pumps and fans return to 100% speed, ensuring sufficient cooling capacity in any operating scenario.

Fast installation and global support

The modular system offers great flexibility during design and installation. You can integrate OptiSave™ in newbuilt vessels or retrofit the system on vessels that are already in operation. Installation can be carried out by the DESMI installation team or by your crew supervised by DESMI. Depending on your vessel and requirements, installation typically takes only 4 to 6 working days.

We have installed OptiSave™ on 700+ vessels all over the world, and no matter where the ship is headed, we are ready to support its onboard DESMI systems: With subsidiaries, distributors, and partners in 150 countries on six continents, DESMI is present around the globe.

It goes without saying that OptiSave™ is an added value to our company's energy efficiency drive.

Andreas Asimakopoulos,
Deputy Technical Manager, Minerva Marine

Potential Power Consumption Reduction

For more details and examples, visit
desmi.com/segments/marine/optisave

Bulk carriers

UP TO **75%**

Chemical Tankers

UP TO **79%**

Container Vessels

UP TO **68%**

We are very satisfied with the functioning of the system indeed.

Dorian Kukuljan,
Marine Electrical Consultant, CB Maritime d.o.o.

Some of our OptiSave™ references:

J. LAURITZEN

FUGRO

ODFJELL

TORM

ISLAND VIEW SHIPPING

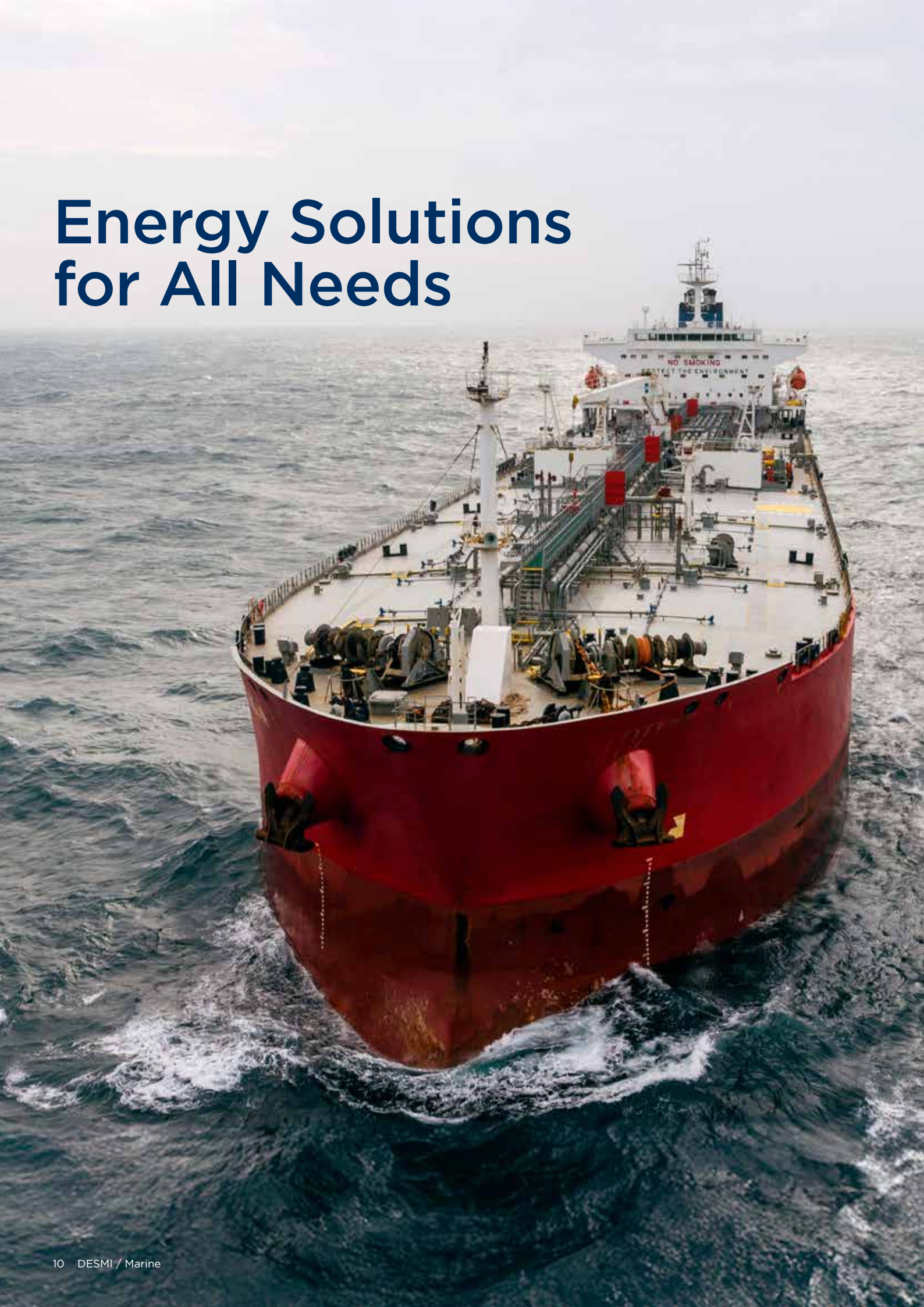
ECORPIO Tankers

MINERVA MARINE Inc.

A2SEA

DESMI OptiSave™

Energy Solutions for All Needs



Sea Water Cooling Systems
OptiSave™ optimizes seawater cooling by adjusting pump speed to match cooling demand, ensuring efficiency and compliance. It features automatic flushing, idle stop, blackout restart, intelligent pump operation, and standby functionality. For new builds, it includes advanced options like emergency bilge pump control, dynamic pressure monitoring, sequential start, and frequency converters.

- ✓ Efficient pump operation
- ✓ Smart control features
- ✓ Advanced new build options

Fresh Water Cooling Systems
OptiSave™ enhances freshwater cooling by regulating pump speed based on demand, considering factors like temperature, pressure, and engine load. It also controls valves and monitors motor temperatures. For new builds, it offers on/off valves, compressor monitoring, standby functions, sequential start, and frequency converters.

- ✓ Precise demand-based control
- ✓ Ideal for new installations
- ✓ Comprehensive efficiency features

Engine Room Ventilation
OptiSave™ optimizes engine room ventilation by adjusting fan speed to meet air flow requirements, ensuring efficient ventilation.

- ✓ Adaptive fan speed control
- ✓ Energy-efficient ventilation
- ✓ Reliable performance

We exist to keep your business flowing

DESMI works closely with vessel owners, operators, and shipyards to deliver critical flow processes for diverse marine applications. Our pumps and supporting systems for marine applications, including the OptiSaveTM Energy Saving System and engine room pump solutions, are trusted worldwide for dependability and the lowest total cost of ownership.

No matter which flow challenges you are facing, we can help you overcome them with class-leading equipment, solutions, and services designed specifically for your applications and environment. At DESMI, our focus has never been on discovering what we can do – it's about pushing the boundaries of what we can do for you.

Founded in Denmark in 1834, we have provided the expertise, solutions, and aftermarket support our customers need for nearly two centuries. We help you operate more efficiently and reliably, enabling your ambitions for performance, compliance, and growth whilst helping you reduce your climate impact.

Together, we can make a difference, whatever the future holds. Because we, like you, are here to make life flow. For more information, visit **desmi.com**

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