



Use Case Yacht Hybrid PropulsionPack

MAKE THE MOST OF YOUR  
YACHTING EXPERIENCE




A Rolls-Royce  
solution




Hybrid yacht solutions

INTRODUCING THE FUTURE-READY YACHT


The **mtu** Hybrid PropulsionPack not only reduces noise levels, emissions and vibrations on board, but also improves efficiency, dynamics and comfort. As a result, yacht owners like you can fully enjoy the benefits of quiet yet highly efficient electric propulsion with zero-emission anchoring: no smell, no smoke, no noise, zero-emission maneuvering in harbor areas, and an all-around eco-friendly system.



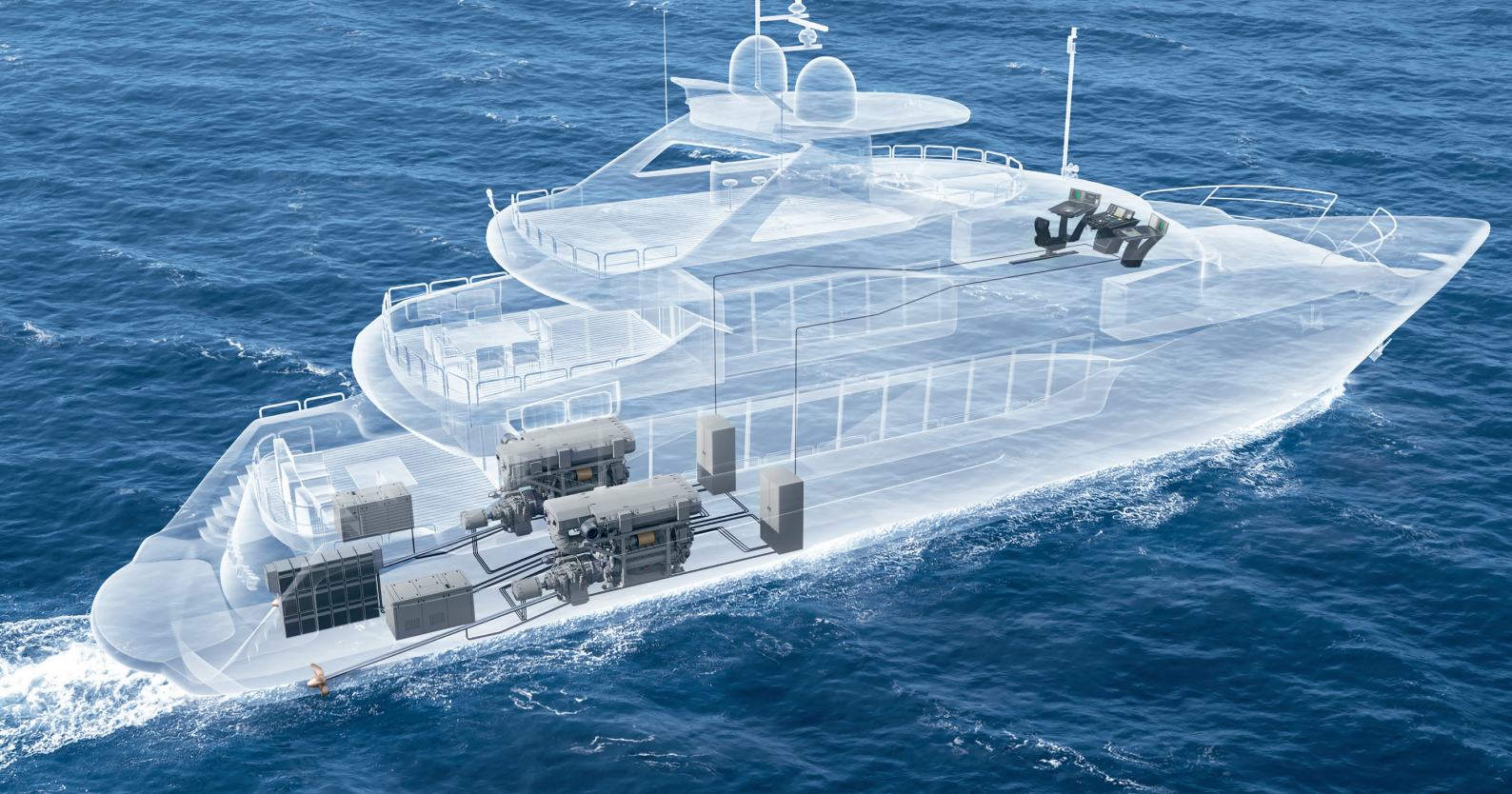
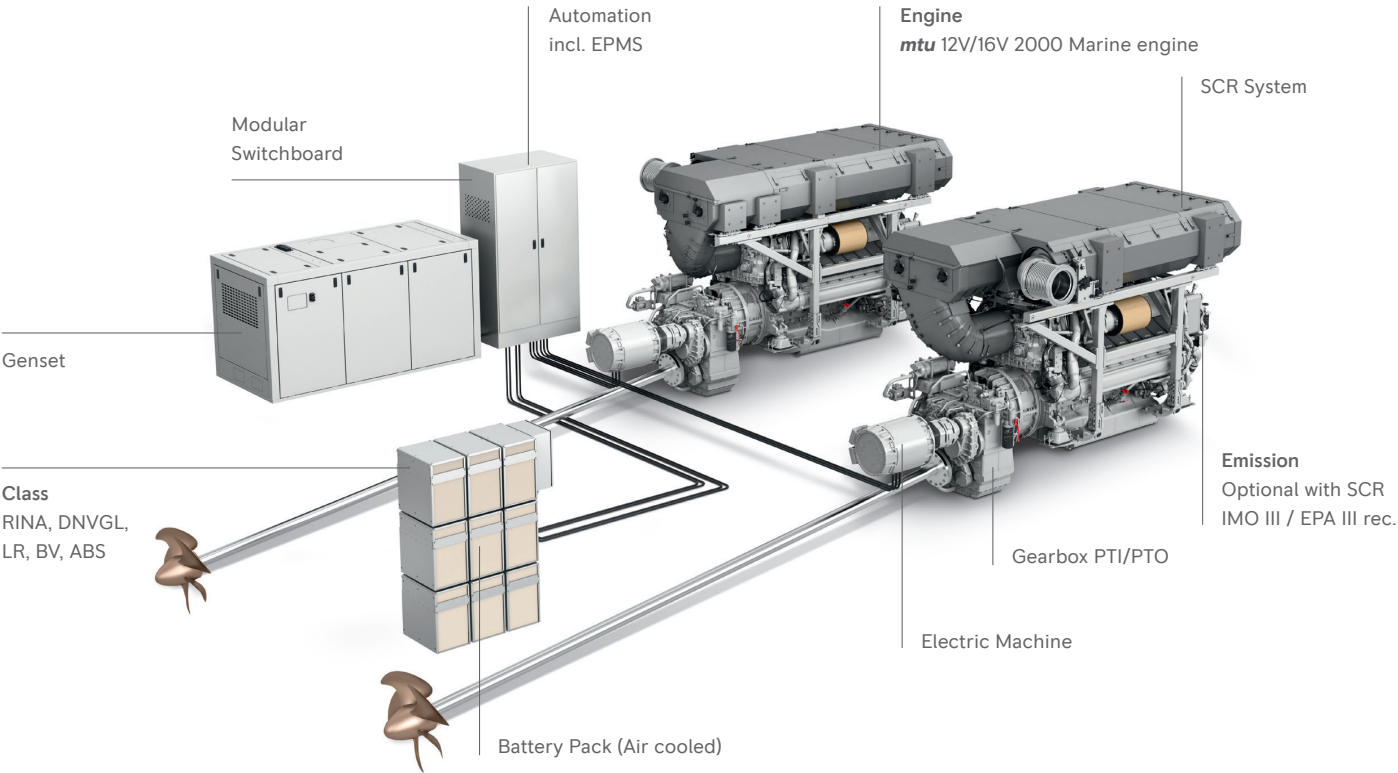
**Powerful**  
Great maneuverability, e-power assisted propulsion



**Clean**  
— Meets the newest emission regulations  
— Local emission-free cruising/anchoring




**Comfortable**  
Silent, vibration-free operation




USE CASE: 4-DAY TRIP IN THE LIGURIAN SEA

**mtu Hybrid PropulsionPack**



2 x **mtu** 12V 2000 M86 with 1,269 kW & 2450 rpm each  
2 x Electric drivetrain system with 277 kW & 4000 rpm each



Battery system:  
2 x LiON with 252 kWh total

**Situation**  
Yachts like yours navigate the world's oceans in some of the most beautiful – and ecologically valuable – waters. Electric propulsion is the key to achieving full performance and sustainability in these challenging environments for the vessel. Supporting conventional propulsion with electric solutions with numerous benefits besides sustainability is already possible today, as this use case will show based on a typical yacht cruise.


- Main benefits of hybrid configuration**
- Lower fuel consumption
  - Lower fuel costs (including the electric charge of the batteries)
  - Lower CO<sub>2</sub> emissions
  - More flexibility (access to environmentally restricted areas)
  - Less noise and vibrations (equals more comfort on board)

**Fuel consumption (using the example of the 4-day trip)**

Conventional system	<div></div>	3,113 l
<b>mtu Hybrid PropulsionPack</b>	<div></div>	2,837 l

**Overall performance**

Conventional system	<div></div>	2,538 kW
<b>mtu Hybrid PropulsionPack</b>	<div></div>	3,092 kW



**- 10%**  
Fuel consumption



4-day trip in the Ligurian Sea

LESS FUEL, MORE COMFORT  
AND FLEXIBILITY

Let's assume you decide to take a 4-day recreational cruise with your yacht in the Ligurian Sea. The *mtu* Hybrid PropulsionPack ensures optimal engine performance throughout the voyage while saving fuel, eliminating emissions, reducing noise and increasing overall comfort.




Day 1

Long haul with hybrid system

Friday: On the first day, you arrive at Porto Lotti in La Spezia in the afternoon. The captain has already stored fuel and loaded everything for the trip. You transfer to the island of Elba during the night.

The next morning you're in Porto Ferraio for breakfast and shopping followed by a swim in the clear waters of the Tuscan Archipelago.

Hybrid benefits:




-  Battery capacity to save fuel
-  PTO E-Motor to provide hotel load power
-  Fuel efficiency improvement: 6.5% (-65 l)

Day 2

Overnight transit with hybrid system

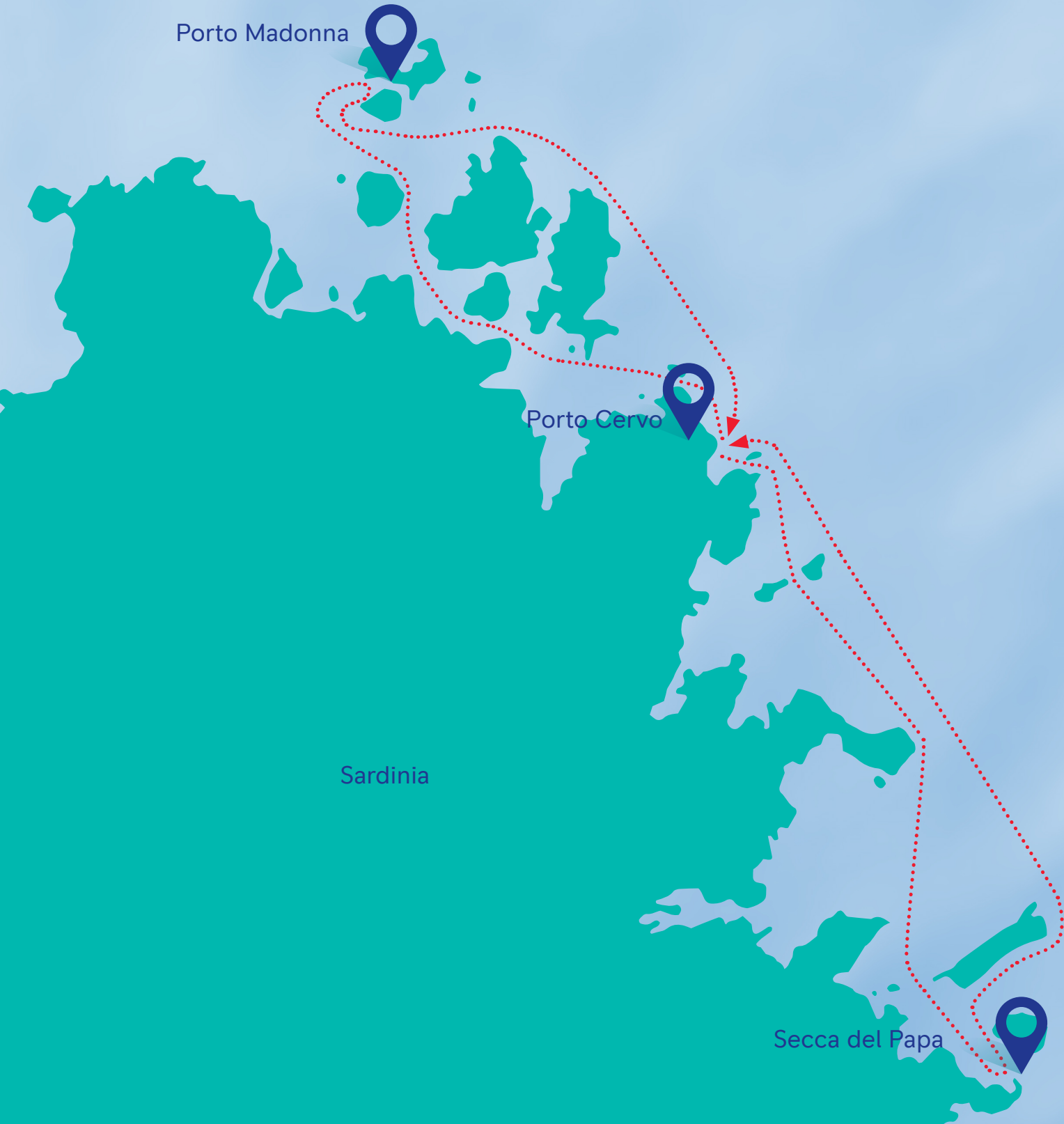
Saturday: After a refreshing swim, you return back on board and the captain sets course for Porto Cervo, Sardinia. You've already booked a table in the beautiful restaurant La Pergola to have dinner with friends that evening.

Hybrid benefits:

-  Battery capacity to save fuel
-  PTO E-Motor to provide hotel load power
-  Fuel efficiency improvement: 6.5% (-88 l)

4-day trip in the Ligurian Sea

# LESS FUEL, MORE COMFORT AND FLEXIBILITY



## Day 3

### Leisure journey with hybrid system

Sunday: After breakfast and a shopping tour in Porto Cervo, you set off for the natural marine reserve of Archipelago di La Maddalena off the coast of Sardinia. In the evening, you return for dinner at a restaurant in Porto Cervo and then a visit to the Phi Beach in Baja Sardinia.

#### Hybrid benefits:



Electric harbor arrivals/departures (emission-free and w/ very low noise)



Electric cruise through natural reserve



Fuel efficiency improvement: 19.4% (-58 l)

## Day 4

### Diving trip with hybrid system

Monday: Following breakfast in Porto Cervo, you head for the marine protected area of Tavolara south of Olbia. There you have lunch in front of Isola di Molara. After that, your ship's dynamic positioning system steers you to Tavolara natural reserve to dive in Secca del Papa, before heading back to Porto Cervo.

#### Hybrid benefits:



Electric harbor arrivals/departures (emission-free and w/ very low noise)



Full electric stay during diving



Fuel efficiency improvement: 14.5% (-65 l)



Hybrid systems for yachts


EXECUTIVE SUMMARY

Less noise, less vibration and reduced fuel costs - the benefits of electric propulsion, even as a support for traditional propulsion, are manifold, especially by opening up new experiences in waters that could not be navigated thus far. An *mtu* Hybrid PropulsionPack offers you the peace of mind needed for carefree excursions where pleasure on board is the highest priority.

In times where sustainability is becoming more and more important, there are promising solutions that create benefits that go beyond the scope of sustainable operation. For yacht owners like yourself, an *mtu* Hybrid PropulsionPack offers a way to not only significantly reduce emissions, but also noticeably increase the comfort level aboard your pleasure craft. By lowering onboard vibrations and noise,


it also makes stays at sea much more enjoyable for you, your family and guests. In addition, you benefit from being able to explore and enjoy pristine waters that have previously been denied to yachts due to their ecological fragility. Electric propulsion is mandated for accessing many protected marine areas.

1 Silent cruising




Imagine your yacht moving as if by magic, without noise and air pollution in superior comfort. The silent mode allows you to enjoy a pleasant ride through coastal or nature reserves without any emissions.

2 Performance



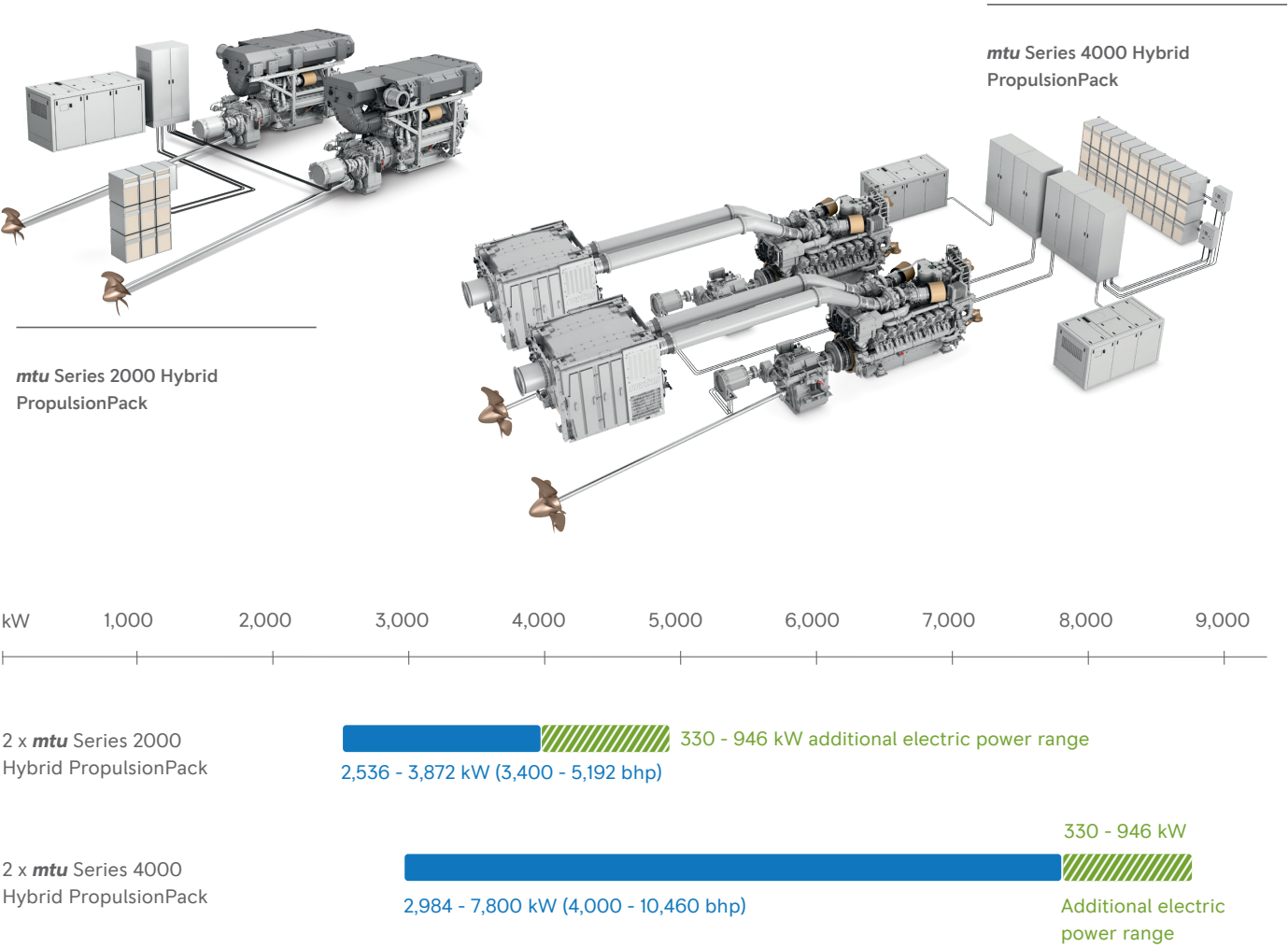
Whether operating in electric propulsion mode or in tandem with a diesel-powered combustion engine, an *mtu* Hybrid PropulsionPack gives your yacht the greatest possible onboard flexibility. You can rely on having precisely the right power mix at every moment of your trip.

3 Eco-friendly cruising



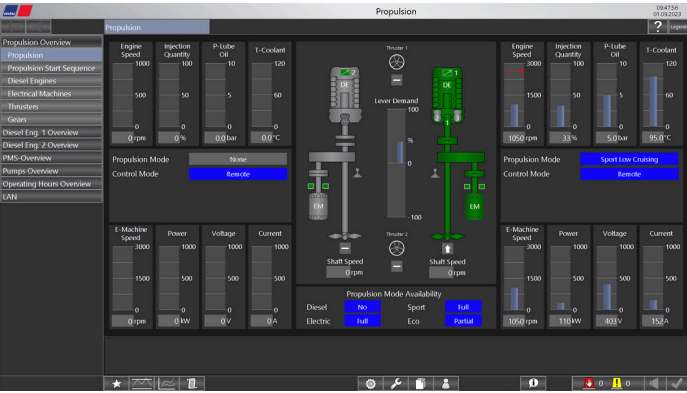
Protecting our oceans is a responsibility we all share. An *mtu* Hybrid PropulsionPack enables you to easily fulfill that responsibility. As a sustainable propulsion solution, it not only reduces your emissions, but also allows you to undertake pleasurable voyages to previously inaccessible waters.

Full range of power



*mtu* NautIQ BlueVision NG Hybrid

The automation system '*mtu* NautIQ BlueVision NG Hybrid' **monitors and controls the entire hybrid propulsion system.** Based on a **scalable** and **classifiable** series automation modular system, the scope of delivery can be individually adapted to customer requirements. The operator stations use an **attractive HMI** concept to show the operator the most important information about the propulsion and energy management system at all times. The automation system can be extended on a project-specific basis so that a **wide range of information from the ship's area** can also be integrated. The **plug & play** concept also supports simple installation.







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