



Yacht

OUTSTANDING PERFORMANCE.  
UNIQUE COMFORT.  
INSPIRING EXPERIENCES.



A Rolls-Royce  
solution



**mtu** solutions power  
**60%**  
OF THE TOP 10 LARGEST  
YACHTS WORLDWIDE



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**1 Yacht Fortunate Sun (ex: Perfect Prescription)**  
2x *mtu* Series 4000 12V Engines  
kW 3,475/bhp 4,660

**2** We are a reliable and trend-setting partner which acts with foresight in a results-oriented manner.

**3** We are passionate about fulfilling the needs of our customers with the utmost professionalism and precision.

**4 Heesen Galactica Star**  
2 x *mtu* Series 4000 20V M93L Engine  
kW 4,300/bhp 5,766



Welcome to the cutting edge

# SUSTAINABLE POWER THAT MATTERS

01

We at Rolls-Royce provide world-class power solutions and complete lifecycle support under our product and solution brand **mtu**. Fully utilizing the potential of digitalization and electrification, we strive to develop climate-neutral drive and power generation solutions that are even cleaner and smarter and thus provide answers to the challenges posed by climate change and the rapidly growing societal demands for energy and mobility. We deliver and service comprehensive, powerful and reliable systems, based on both gas and diesel engines, as well as electrified hybrid systems.

#### A solution provider

**mtu** systems power the most modern yachts, the strongest tugboats and the biggest land vehicles and provide energy for the world's most important mission-critical applications. With advanced solutions such as microgrids we integrate renewable energies and manage the power needs of our customers.

For over 110 years we have provided innovative solutions for our customers – meeting even the most demanding drive and power requirements. Our products and services span a wide range of applications and power needs, with both standard and customized options.

#### An expert in technology

**mtu** products are known for cutting-edge innovation and technological leadership. That same spirit of innovation inspires our sustainability efforts. Our focus is on developing and implementing system solutions that both maximize efficiency and reduce emissions – which in turn helps to reduce our impact on the environment.

#### A passionate and reliable partner

We at Rolls-Royce spend every day working together with our customers, to deliver engines, systems and complete lifecycle solutions that best fit their needs. We understand that each application is different and has its own specific demands. Our engineers embrace the challenge of finding the perfect solution for your unique power requirements. Every step of the way – from project planning, through design, delivery and commissioning; to the lifetime care of your equipment – we are dedicated to helping you get the most from your **mtu** investment.



Powering the world of yachts

# INNOVATIVE THINKING – MEMORABLE PERFORMANCE

# 02

We have repeatedly set new standards in the world of yachts: with a passion for technology and an unwavering commitment to the art of high performance and reliable propulsion systems.



#### Your world is our world

Broad horizons. As free as the wind. Enjoyment that knows no limits. Regardless of whether you are cruising to the most beautiful spots of the world, coasts of the world, relaxing onboard as the sun sets, or want to experience a rush of speed, we know and understand what keeps you moving.

#### Captain of the luxury class

Yachts are a world of their own: a unique combination of style and quality, comfort and speed. That's why it isn't by chance that **mtu** engines are highly renowned in shipyards, as well as among owners and crews. Yachts with **mtu** engines have a history of setting standards. For example, the ship that set the record for the fastest Atlantic crossing was powered by **mtu** engines. But even beyond races **mtu** yacht engines excel in high performance installations, as well as in lower speed displacement yachts. Through their quality and reliability, they are able to satisfy the highest power to weight ratios, but also robustness, longevity and low life cycle costs, which suits a wide variety of yachts.

#### Bundled yacht expertise

- **mtu** yacht engines are not only extremely powerful and compact, but also fuel-efficient, cost-effective and reliable.
- The engines are characterized by smooth operation, which provides extremely quiet operation and optimal enjoyment onboard.
- We are a system supplier which means we integrate all components into a finely tuned system based on the wishes and needs of our clients. Starting with the engine as the heart of the system, we can integrate the transmissions, generators, electronic control & monitoring, and more.
- With **mtu** Premium Yacht Service, we offer a comprehensive portfolio of services and service products to ensure that your yacht retains its value and runs optimally.
- Our global service network takes care wherever you are.

#### Partners of the highest caliber

If you have the same high demands as we do, if we both have a passion for yachting, then this could be the start of an excellent partnership. Whenever you want to cast off: both we and our engines are ready.



- 
- 1 Displacement Yacht  
Leadship "Trident", 2x 16V 4000 M60R
  - 2 Super Yacht  
Meya Meya, 2 x 16V 2000 M93
  - 3 Mega Yacht  
Nobiskrug "Sirene", 2x 16V 4000 M60

System solutions

# ALWAYS EXPLORING NEW HORIZONS

# 03



## System solutions

## A LIFETIME OF INTELLIGENT POWER

**mtu** engine provide you sustainable and, at the sametime, powerful propulsion to the most pristine waters of this world. With our solutions from bridge to propeller you have peace-of-mind and can rely on complete lifecycle support, for which our product brand **mtu** stands. Broad horizons. As free as the wind. Enjoyment that knows no limits.

**From the concept**

Already at an early stage of design, our engineers provide extensive analysis, documentation and risk mitigation services as well as integrated mechanical, electrical and electronic interfaces.

**Propulsion System Integration**

We provide comprehensive engineering and technical support for the design and implementation of a vessel's propulsion system. Our application engineering team helps reduce design, installation and commissioning costs.

**Unrivaled expertise. Unrivaled system engineering.**

We are system partners. Our expertise in ship applications encompasses every possible propulsion configuration, including engineering services, hardware and software which these configurations require. No matter how extraordinary your requirements, we can supply you with a complete, fully integrated propulsion system. Diesel engine, gas turbine and gearbox, onboard power supply and ship automation – all these form a single system which is both reliable and cost-effective.

**mtu NautIQ marine automation solutions**

Our intelligent electronic management systems are perfectly matched to your propulsion, giving you a complete package where everything is fine-tuned to your requirements: powerful engine performance, maximum efficiency, uncompromising reliability and green credentials.

**ValueCare services**

**mtu** ValueCare ensures maximum performance and lasting value, with a complete portfolio of service and support solutions including support solutions starting from genuine spare parts, training, qualified **mtu** technicians up to various overhaul solutions and our ValueCare Agreements.

**PREMIUM YACHT SERVICE****Our Premium Yacht Service includes:**

- Prompt, expert support from more than 1,200 locations worldwide
- Immediate attention from our 24/7 Customer Assistance Center
- A global inventory of genuine parts to maximize availability
- Comprehensive 12- or 24-month warranty

**Captain Training****On-site at various **mtu** subsidiaries facilities:**

Training sessions for captains, crew, and shipyard personnel are free of charge and help you get maximum efficiency from your equipment.

**Training topics include:**

- Exploring the **mtu** Series 2000 on a real engine
- Skills practice on the **mtu** NautIQ BlueVision NG simulator
- Meeting the local support personnel
- Learning about the **mtu** Premium Yacht Service and your service options

**mtuGo****Digital Solutions**

We incorporate digital technology with the latest data security standards in a holistic service approach so the yacht can be operated to its full potential. Our digital platform **mtu** Go enables users to analyze system data remotely (incl. historical data and trends), determine important action steps quickly and plan them efficiently, either independently or together with the service network.

**Maximum Comfort**

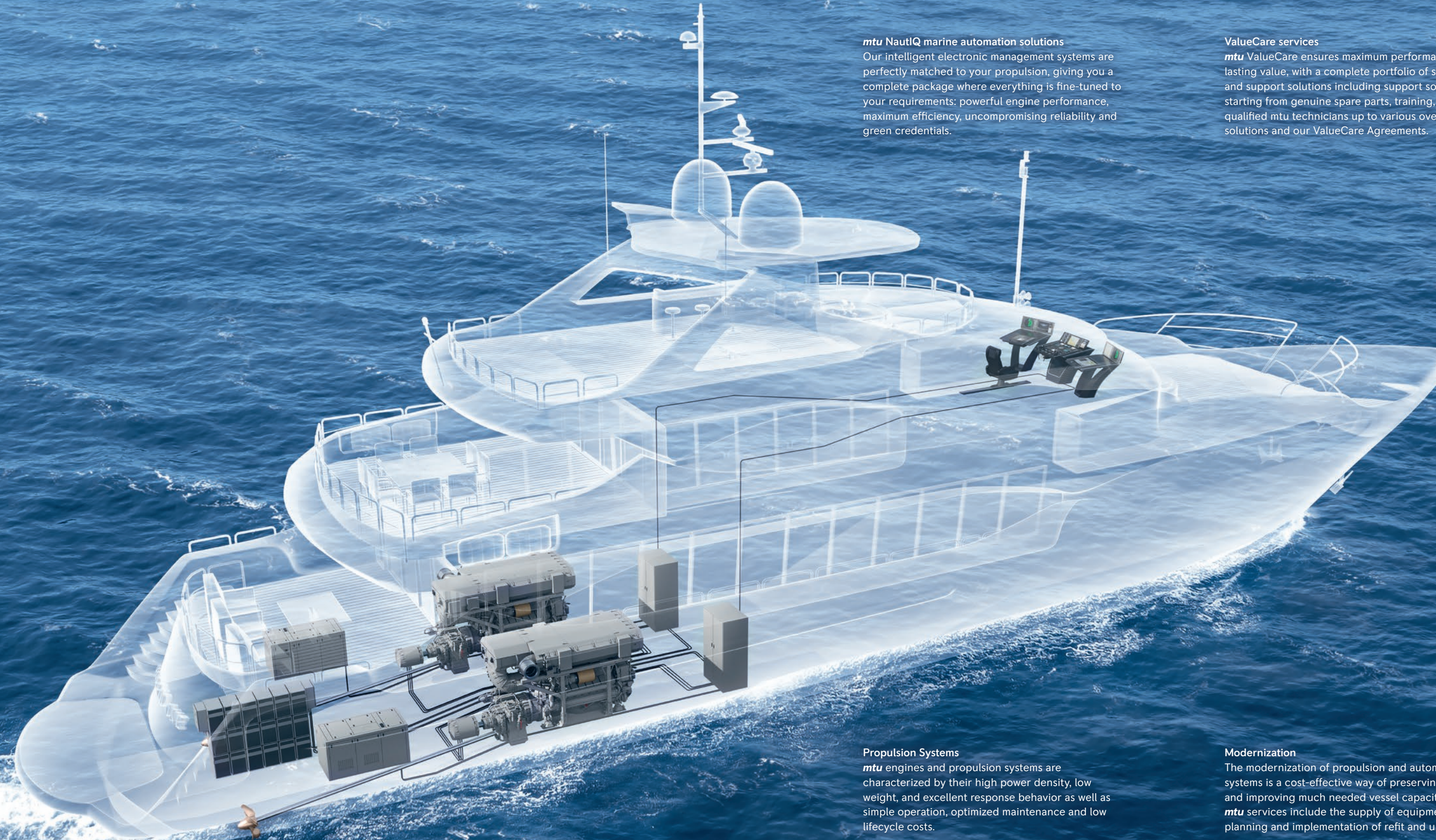
**mtu** application engineering experience and calculation capabilities will support you selecting the best propulsion configuration, mounting system, flexible couplings in order to fulfill deliver the best performances and the best comfort.

**Propulsion Systems**

**mtu** engines and propulsion systems are characterized by their high power density, low weight, and excellent response behavior as well as simple operation, optimized maintenance and low lifecycle costs.

**Modernization**

The modernization of propulsion and automation systems is a cost-effective way of preserving and improving much needed vessel capacity. **mtu** services include the supply of equipment, planning and implementation of refit and upgrades.



# PROPULSION SYSTEMS TAILORED TO YOUR NEEDS

## 04

### Performance Yachts

In a class of yachts where unbridled speed reigns supreme, our engines display an overwhelming amount of power paired with an impressive level of endurance. That is what we call performance.

### Sportfishing Yachts

More than any other, sportfishing is the application that defines performance in marine diesel engines. None other is as demanding, requiring precise responsiveness, exceptional acceleration, power and unquestioned dependability.

### Mega Yachts

Our leading market position enables us to power 38 of the 100 largest yachts worldwide, including the top four. We not only power the largest yachts, but also seven of the fastest superyachts – impressive proof of the agility and performance capabilities of our diesel engines. In the class of yachts with the most exclusive demands, we are the first and maybe only choice.

### Displacement Yachts

Anyone who wants to stay at sea longer and go out farther needs a highly sea-worthy, robust, safe yacht, and one that at the same time offers every creature comfort imaginable. In short: a yacht that is powered by an **mtu** engine.

Core technologies

INCREDIBLE POWER PAIRED  
WITH AN IMPRESSIVE LEVEL  
OF DURABILITY

05



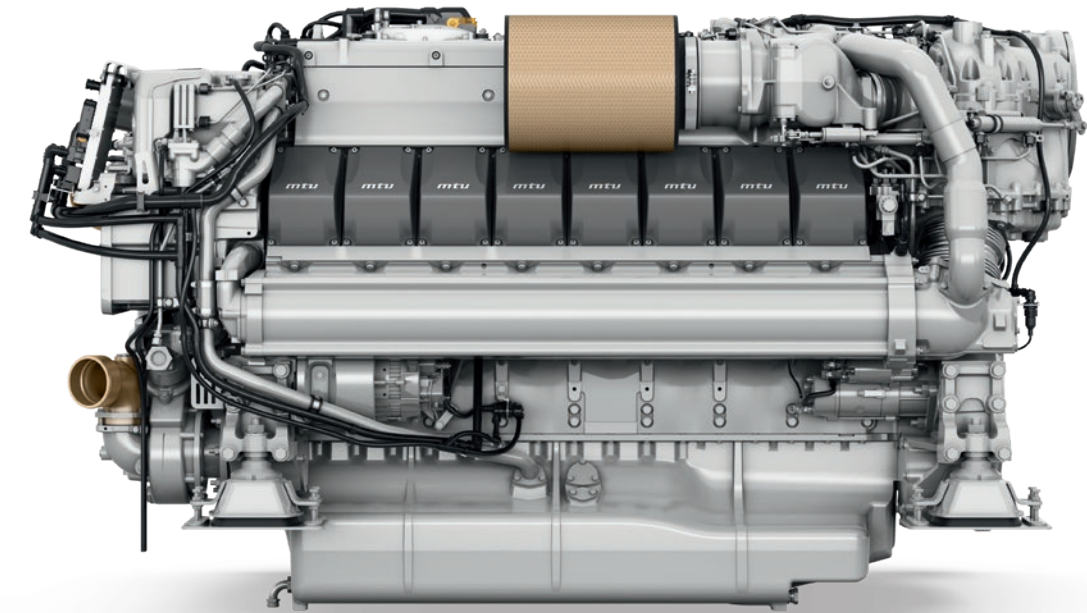


## Core technologies

## PROPULSION TECHNOLOGY AT A GLANCE

*mtu* yacht engines are "first among equals". Their quality and reliability meet the most demanding client's requirements:

- High reliability and availability
- A broad engine characteristic map and unlimited low load capability
- High power concentration at low weight
- Excellent maneuverability and acceleration
- Low acoustic, no visible smoke at all conditions
- Lowest vibrations & highest comfort
- Low fuel consumption over the entire operating range
- Long maintenance intervals

**mtu Series 2000**

Combines best in class power-to-weight ratio with effortless unfolding of power and bottom end torque.

**Analytics**

We use the most diverse analysis and simulation tools to develop state-of-the-art propulsion solutions. That includes vibration analysis, component strength verification and dynamic response simulations of entire propulsion systems.

**Electronics**

The latest generation of *mtu*'s electronic management system, Advanced Diesel Engine Control (ADEC), controls key systems such as fuel injection and turbocharging that affect both fuel consumption and emission levels as well as vessel performance.

**Fuel injection**

We optimize fuel combustion in the cylinder by means of its electronically controlled common rail fuel injection system.

**Power range**

The wide range of *mtu* engines has answers to the most extreme demands that can be made of a propulsion system. Solutions include the highest performance, greatest reliability and availability as well as superior agility.

**Mounting**

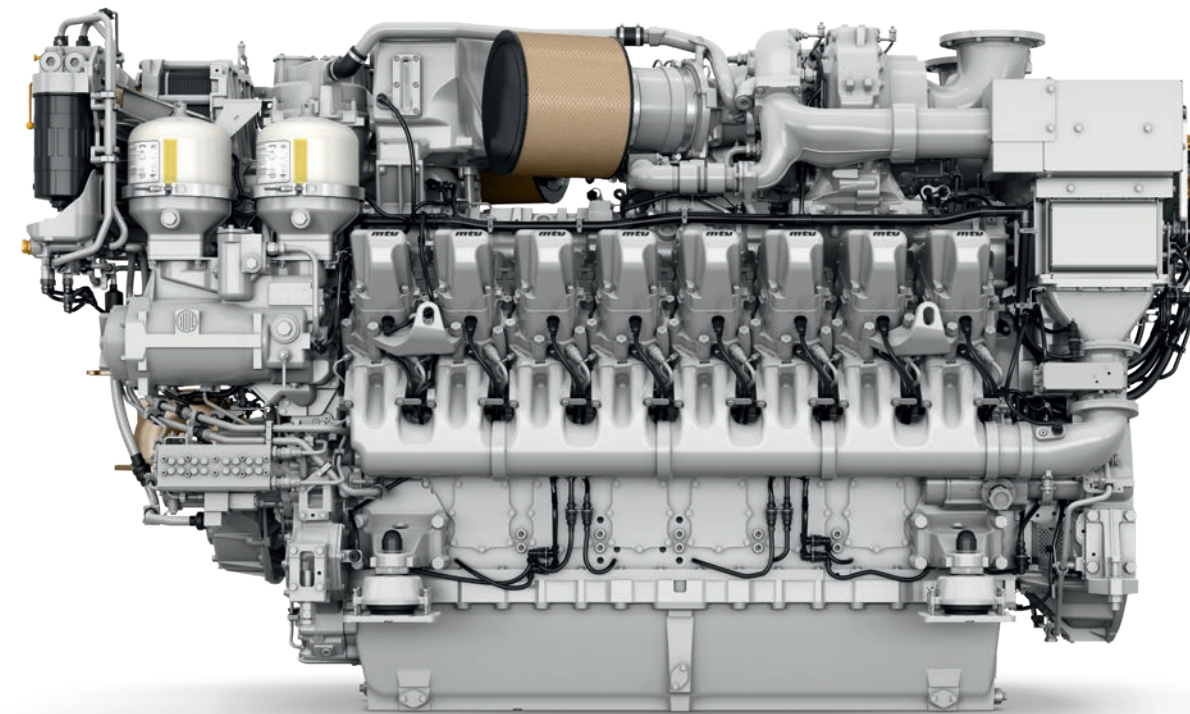
*mtu* engines are installed on special rubber mountings to reduce the transmission of structure-borne noise to the ship's hull. New active mountings support the passive rubber mountings and make their noise reduction far more effective.

**Aftertreatment**

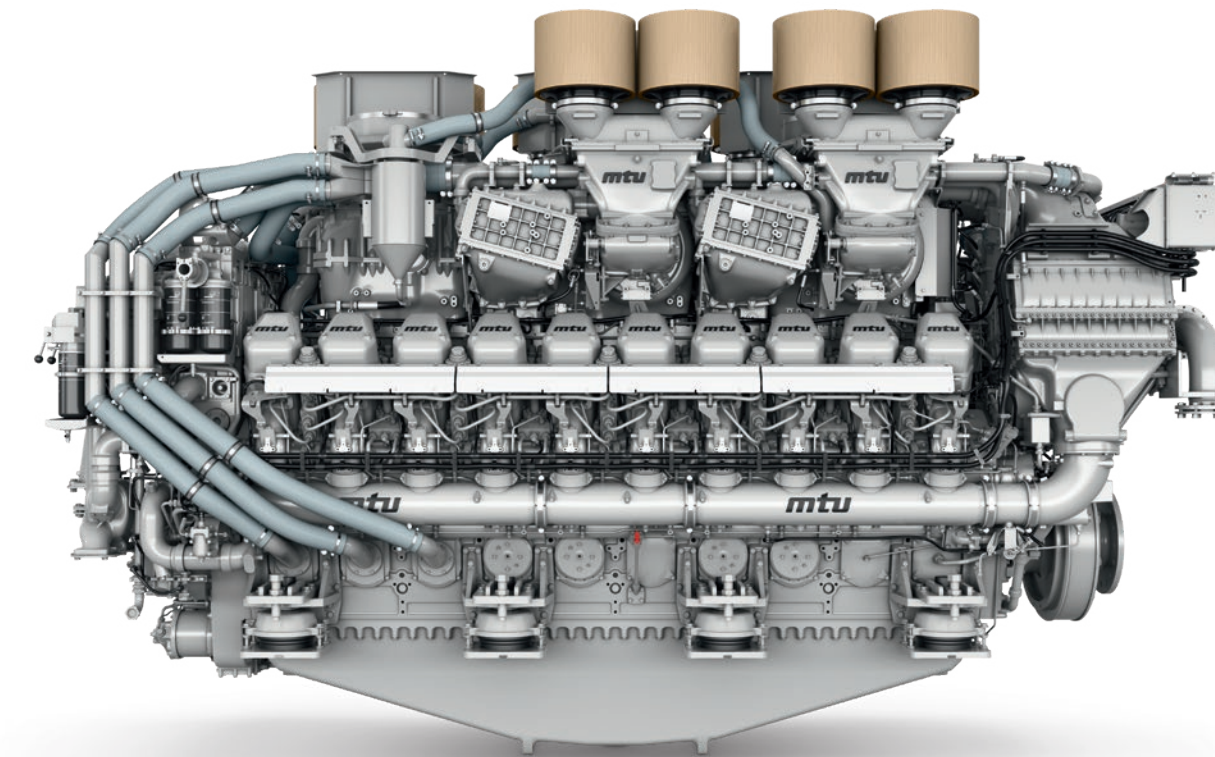
We offer exhaust gas aftertreatment systems such as selective catalytic reduction to meet IMO Tier 3 emission limits over lifetime.

**Turbocharging**

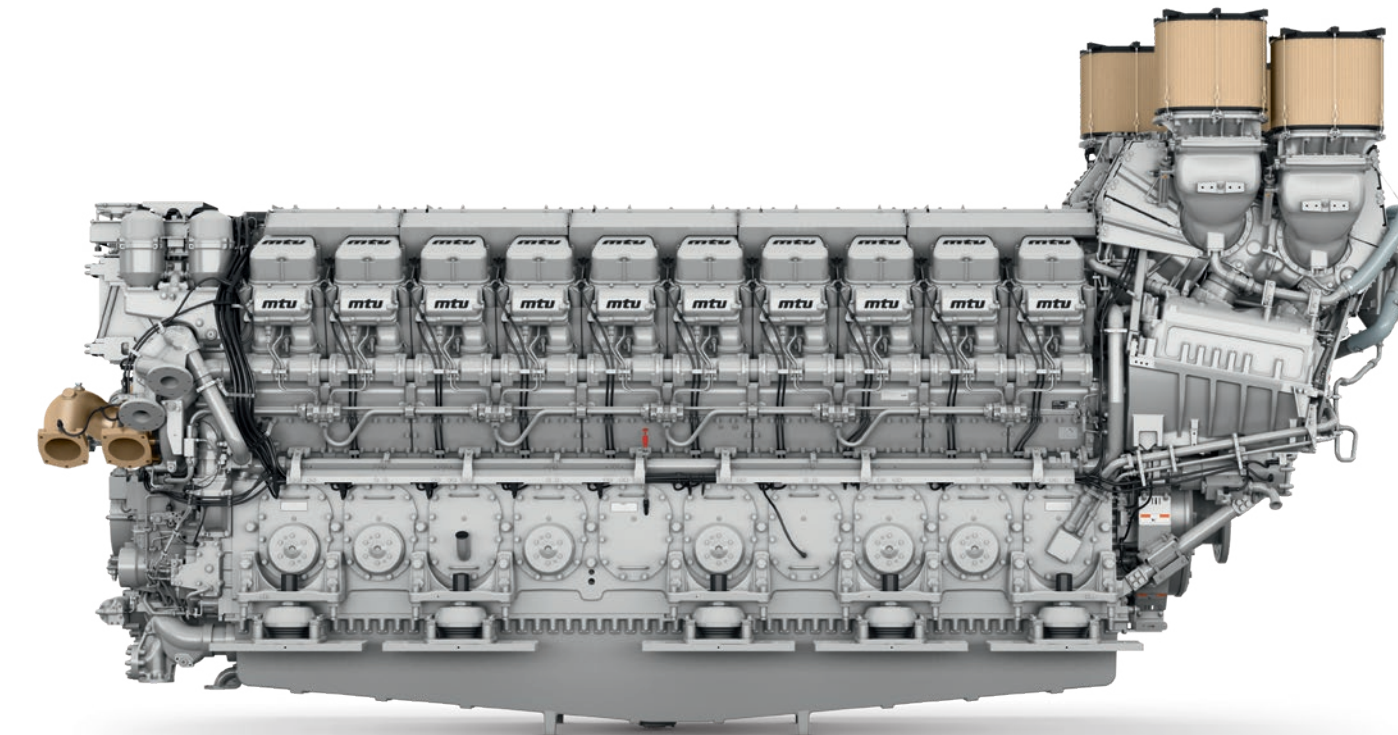
We develop and produce our own turbochargers for high-performance applications. Sequential Turbocharging helps achieve low fuel consumption and high performance across a broad range of operating speeds.

**mtu Series 4000**

If trend-setting performance in terms of speed, agility and safety are needed, *mtu* Series 4000 offers unsurpassed power density in terms of volume-to-power ratio and power-to-weight ratio combined with the effortless unfolding of power and bottom end torque due to *mtu*'s unique sequential turbo charging technology.

**mtu Series 1163**

Combines industry leading safety features with the durability and reliability of the global market leader of high performance marine engines.

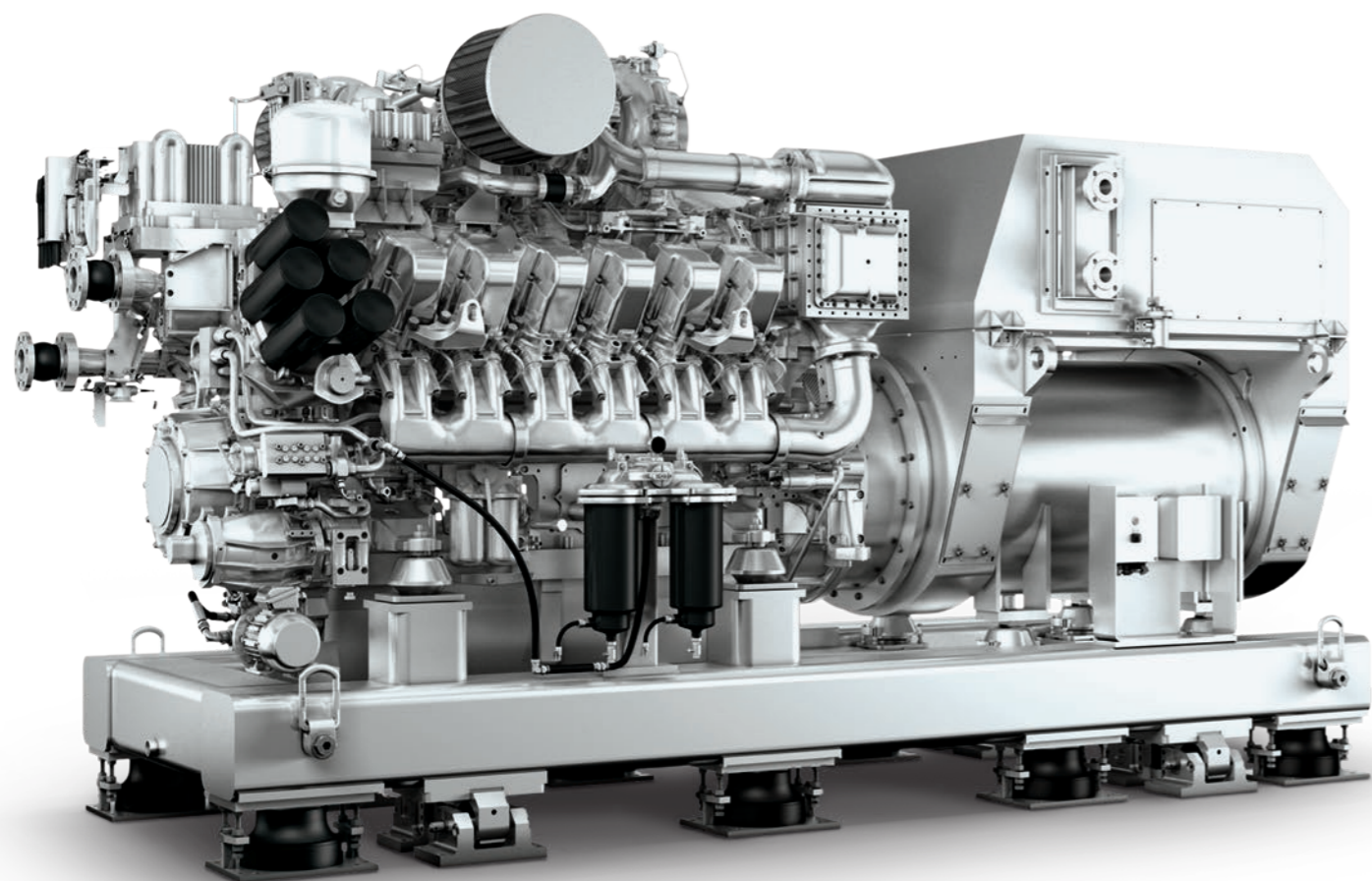
**mtu Series 8000**

Is dedicated to the marine industry with leading safety features, durability and reliability in its class.

## Marine gensets

FOR ONBOARD POWER  
AND PROPULSION

Whether you are looking for onboard power, diesel-electric or hybrid propulsion, our gensets meet the full spectrum of your requirements.



Advanced Generator Set  
Here exemplary shown with *mtu* Series 4000

## 06

Our advanced and premium gensets are available as a constant speed version in 50 or 60 Hz or as a variable speed configuration with added electronics. Our sound enclosure and base frame can be specifically tailored to meet your acoustic needs, and the integrated plug-and-play media plate ensures convenient mounting.

We provide emergency gensets for critical situations at sea, when absolute reliability is essential. In addition to gensets for main propulsion and onboard power, we also supply lower-power gensets which can be installed as separate power units in the engine room. Our genset portfolio covers power outputs from 720 to 3,100 kW.

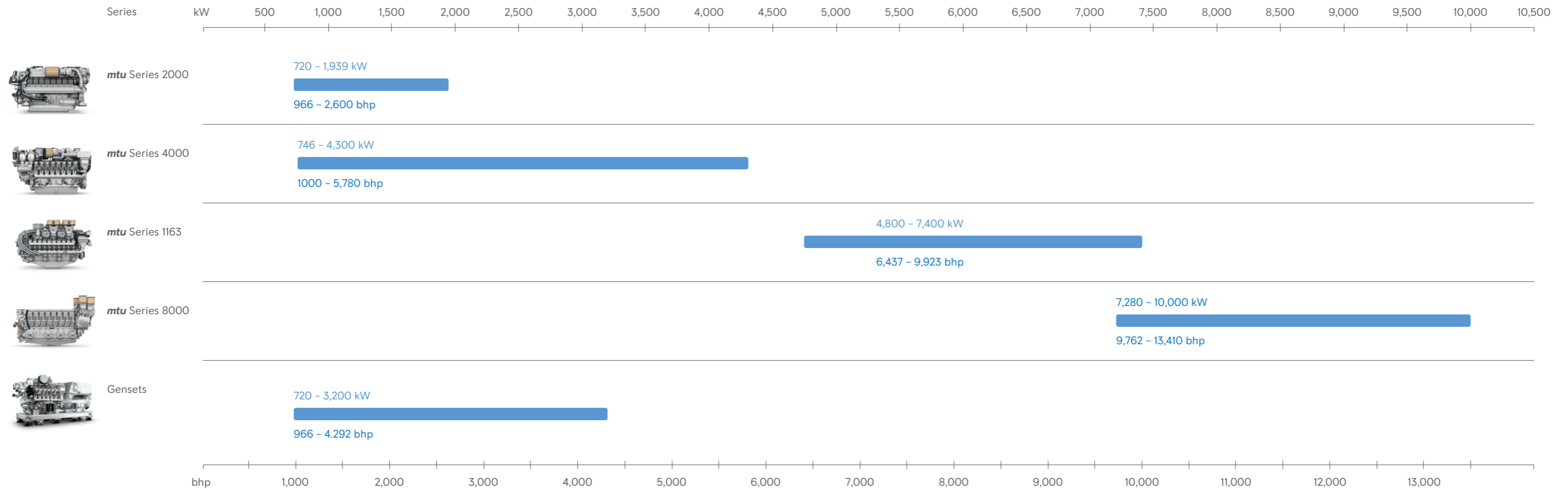
**Your benefits are:**

- Various available configurations, including full tailored customization, to meet your specific needs.
- Overall system responsibility by us based on its engineering and development expertise.
- Outstanding acoustic optimization for best-in-class comfort (noise and vibration levels can be contractually guaranteed, with all values proven on *mtu* test benches to minimize risk).
- Featuring special plug-and-play technology such as media plate and integrated piping for very easy installation.
- Backed up by decades of experience in customer-specific solutions.
- Proven by the highest number of references in yacht industry.
- All of our gensets are classifiable according to e.g. DNV, LRS.
- Gensets with high quality finishing and painting dedicated for the yacht market.

Power range

# OUTSTANDING ENGINE AND GENSET OUTPUT AT EVERY LEVEL 07

We are your global full-line partner offering solutions for all emissions requirements as well as the full power range from 720 to 10,000 kW (966 to 13,410 bhp). Our engines set the benchmark for what diesel engines must deliver in yacht applications. Their uncompromising power-to-weight ratio, the outstanding drive dynamics and operational availability provide peace of mind.



Sustainable yacht solutions

MEET THE NEEDS  
OF TOMORROW

08



Emission reduction technologies

# SETTING NEW BENCHMARKS FOR CLEAN PERFORMANCE

Operating on the water means working in a sensitive environment. Assuming responsibility for protecting the water and air and keeping them clean is second nature to us. We have always played a leading role in developing environmentally friendly engines and, in particular, solutions for reducing emissions. Since we have all the relevant key technologies bundled within our company in addition to our core business of building engines, we have been and will always be leaders in this field. Our engines are an embodiment of the most state-of-the-art technology available.

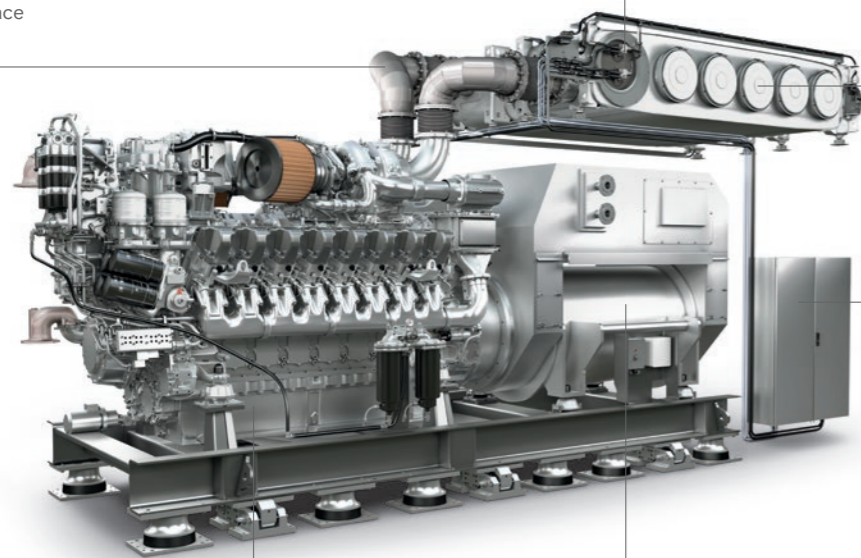
**Our SCR solution**

As installation space is always restricted inside the engine room, the inhouse developed airless SCR (Selective Catalytic Reduction) solution from us is compact and maintenance friendly. Besides easily accessible doors for replacement of the SCR catalysts, the system also features an integrated mixing pipe and dosing units.

The integrated mixing pipe and DEF (Diesel Exhaust Fluid) dosing allows the shipyard highly flexible pipework between the engine and the SCR box. Additional space to fit the exhaust gas aftertreatment is reduced to a bare minimum. Ammonia slip is prevented under all operating conditions by a closed loop regulated control system. Besides the exhaust emissions related features, our SCR system also reduces noise.

Mixing pipe – The integrated mixing pipe allows highly flexible piping between the engine and the SCR box and saves installation space

Dosing units – The two DEF dosing units work airlessly and are built into the SCR box



Diesel engine

Generator

Maintenance doors – The maintenance doors allow easy replacement of the SCR catalyst

Cabinet – The cabinet houses the monitoring and control units as well as the DEF pumps

Diesel-mechanical propulsion solution or generator set with SCR box



Vertically arranged SCR box.



SCR box designed as a cube, for assembling in horizontal direction.

NOx-conformity test

# IMO 3 CERTIFIED MARINE ENGINES WITH SCR SYSTEM

The certification of marine diesel engines fitted with SCR systems is regulated by IMO's 2017 SCR guidelines (Resolution MEPC.291(71)) and the NOx Technical Code 2008. For engines fitted with SCR, new requirements regarding the monitoring of the SCR system must be followed in order to ensure compliance with the emission regulations onboard the ship.

**Our NOx-conformity test solution:**

We are using SCR systems which are based on a closed-loop reductant control strategy, which uses NOx sensors upstream and downstream from the SCR unit as input parameters. The SCR controller continuously monitors and stores SCR operating data in the controller memory. This enables access to detailed information on the SCR system's health, without required additional emission measurements ("spot checks" as stipulated by the regulations for feed forward SCR systems).

**Your benefits:**

- Timely issue of the needed confirmation document, if no problems are identified.
- Official NOx-Confirmation Document submitted by *mtu* authorized service partner.

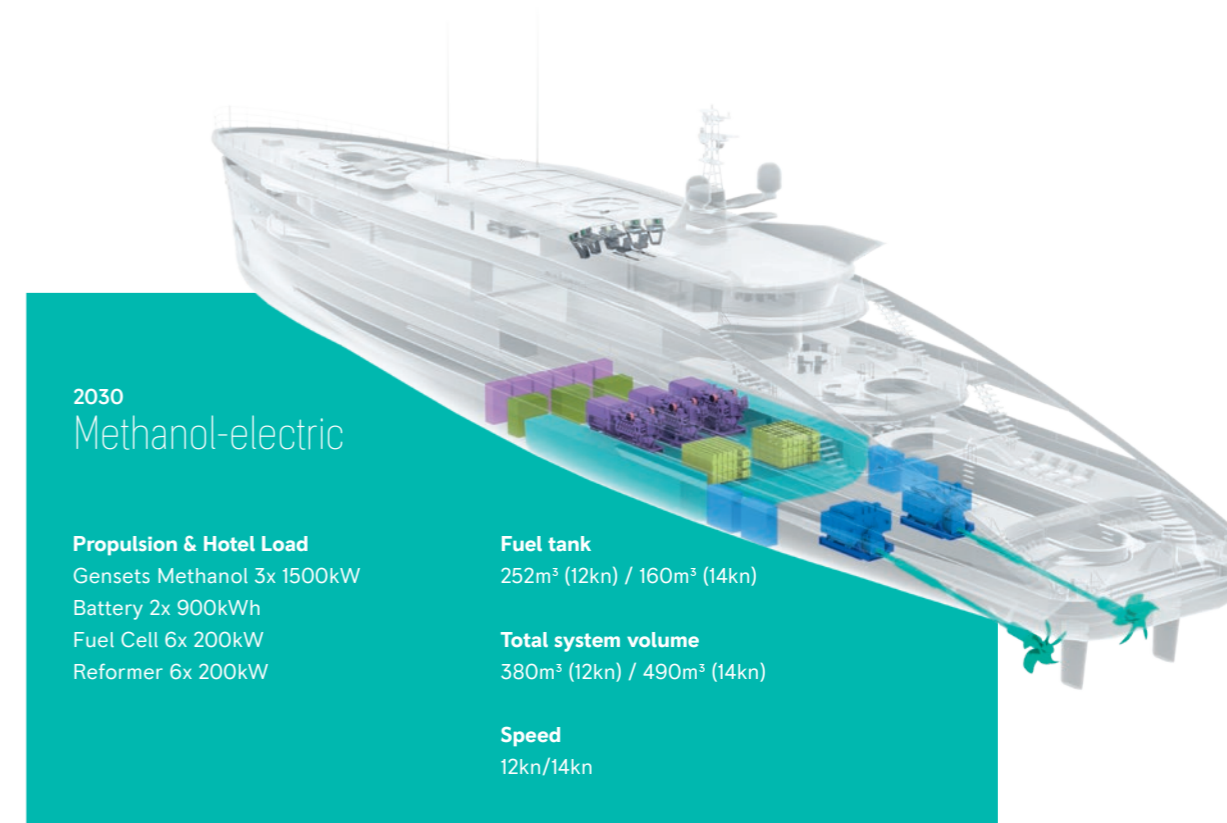
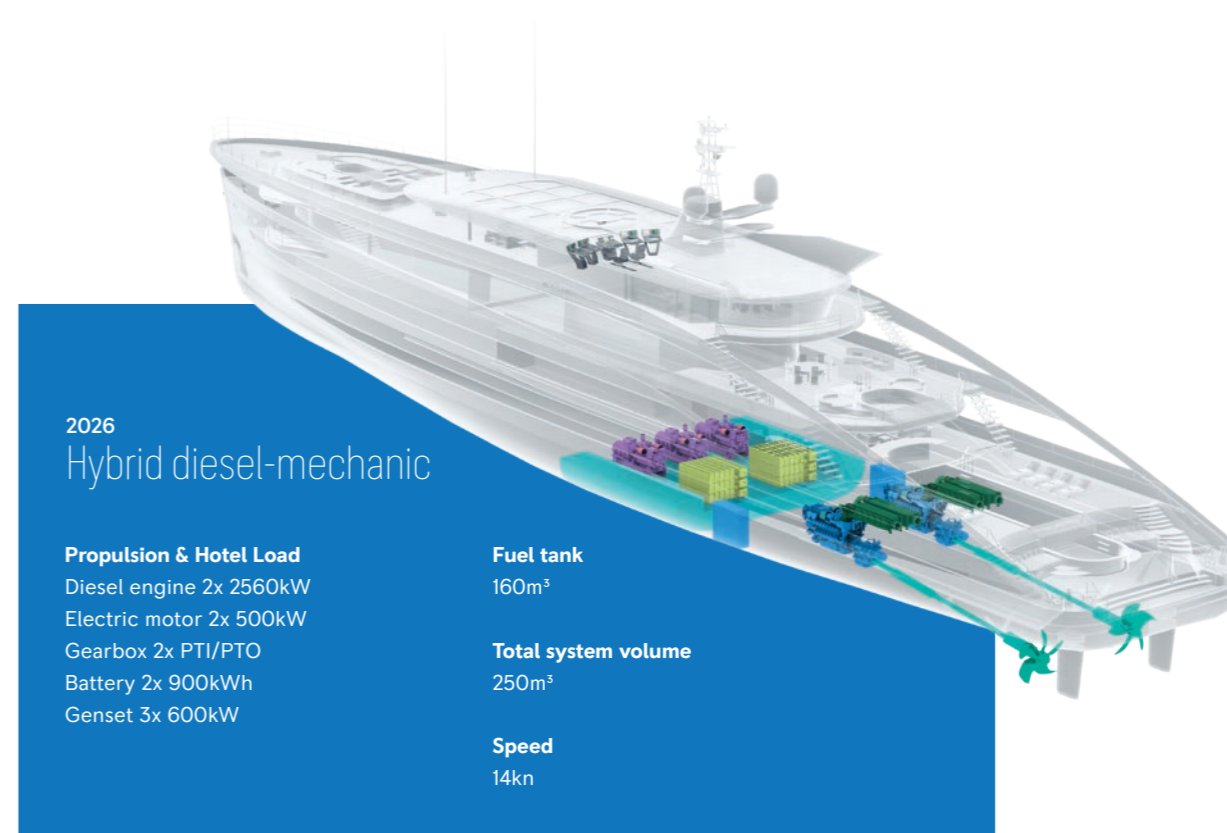
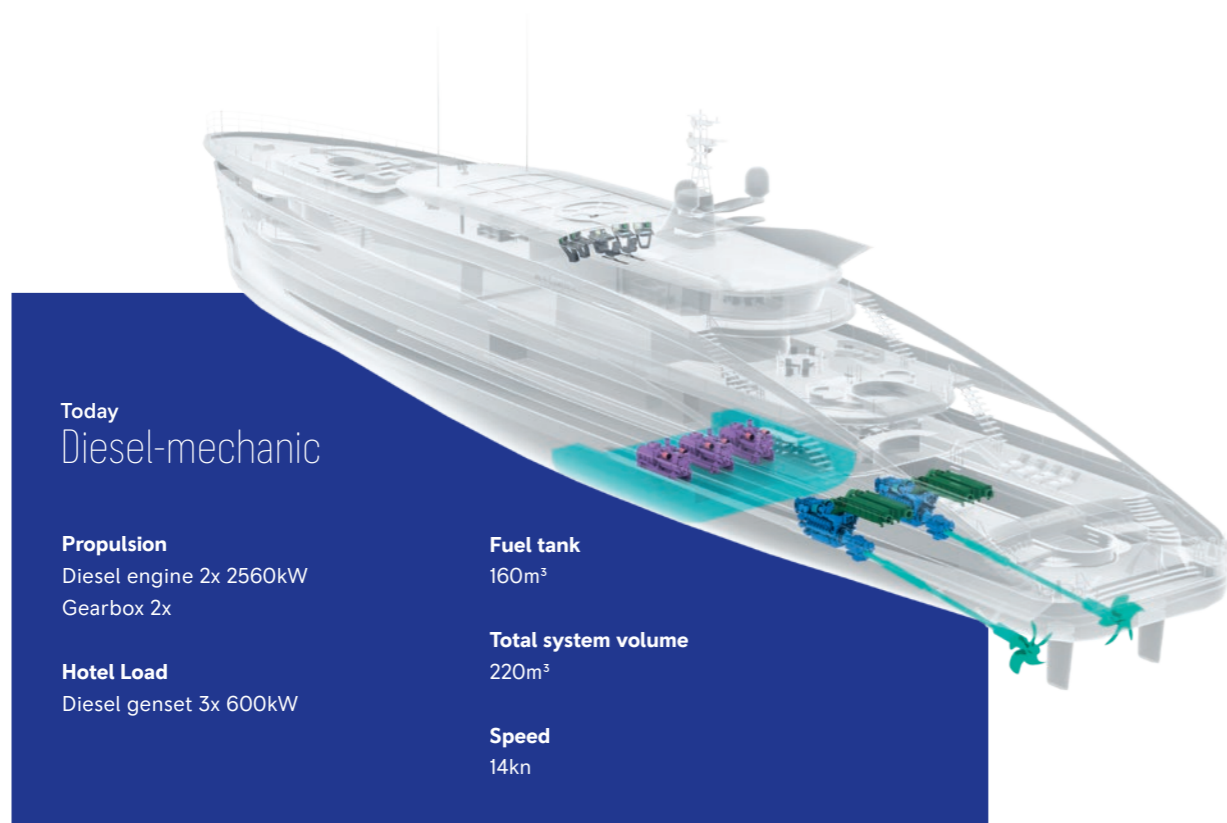
Sustainable yacht solutions

# ON COURSE TO NET ZERO

Helping the yachting industry to achieve ambitious emissions targets requires solutions that are both innovative and individually adaptable. Our **mtu** engines already address greenhouse gas reductions by meeting the highest standards in fuel efficiency. On top of that, we optimize our systems to support your journey to net zero by enabling the use of sustainable fuels.

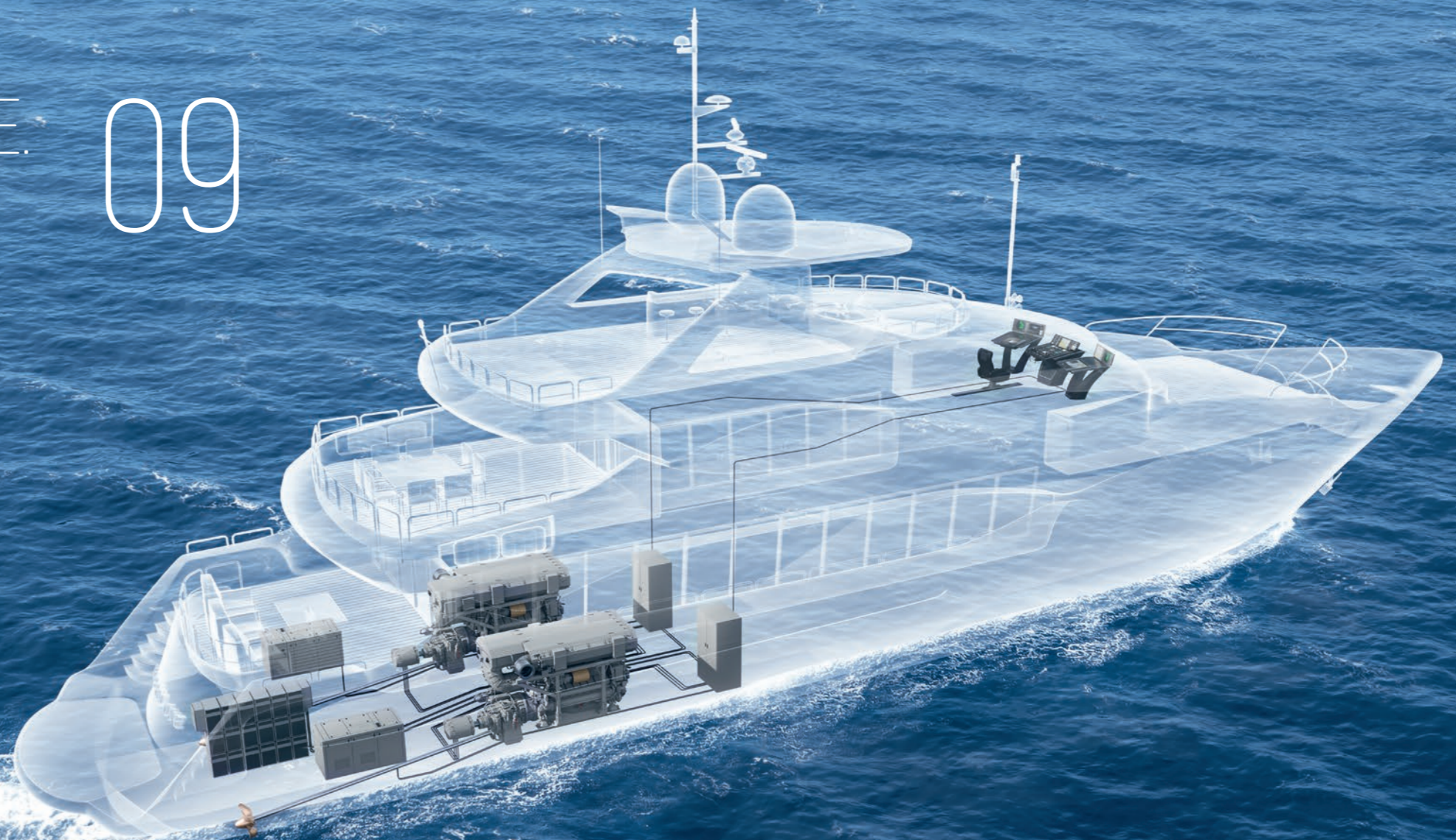
Thanks to over one hundred years of experience in engine construction and systems business, our products continue to set new standards in power efficiency, low fuel consumption and emissions. At the heart of our sustainable solutions is the development of innovative technologies and systems – as the basis for extremely sustainable, environmentally friendly products of the future.

The focus is on engine efficiency, alternative fuels such as HVO or methanol, electrification and hybridization, digitalization and fully integrated system compatibility. Our leading **mtu** Series 2000 and 4000, which account for 85% of our engine sales, can already run on sustainable fuels such as HVO.



Hybrid systems for yachts

QUIET. POWERFULL. SUSTAINABLE. 09






Hybrid systems for yachts

# DISCOVER THE *mtu* HYBRID PROPULSIONPACK

Make the most of your yachting experience with the *mtu* Hybrid PropulsionPack. Not only does a hybrid system reduce onboard noise levels, emissions and vibrations, it also improves efficiency, dynamics and comfort. The components for onboard power and propulsion are modular and scalable. Each hybrid system can be individually designed to meet your requirements.

Enjoy the benefits of quiet yet highly efficient electric propulsion with zeroemission anchoring: no smell, no smoke, no noise, zero-emission maneuvering in harbor areas, and an all-around eco-friendly system.

<p>1 Silent cruising</p>	<p>2 Performance</p>	<p>3 Eco-friendly cruising</p>
		
<p>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.</p>	<p>Whether operating in electric propulsion mode or in tandem with a diesel-powered combustion engine, an <i>mtu</i> 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.</p>	<p>Protecting our oceans is a responsibility we all share. An <i>mtu</i> 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.</p>



**Maximized comfort**

Reduction of vibrations, noise and air pollution through pure electric or diesel electric propulsion modes.



**Efficiency**

Fuel savings and CO<sub>2</sub> reduction possible via intelligent propulsion and energy management modes. (Up to 15% depending on configuration and operation profile)



**Eco-friendly cruising**

Local zero emission battery powered cruising standby and anchoring.



**Performance**

Optional optimized acceleration behaviour and maximum power. Easy realization of downsized propulsion designs.



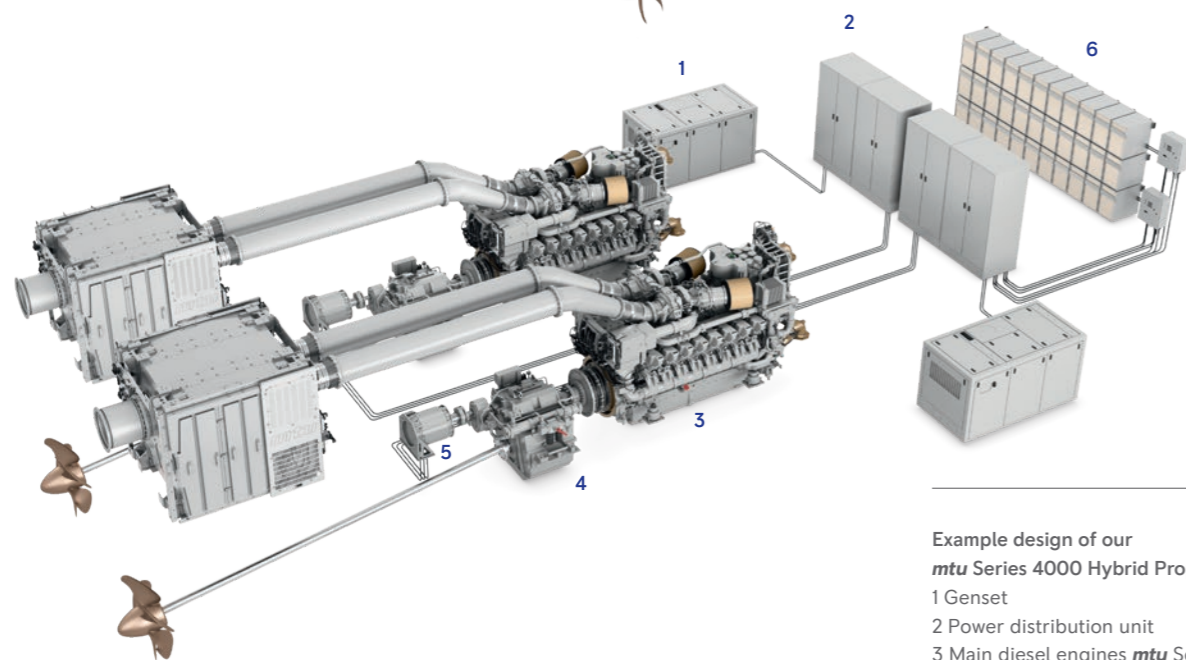
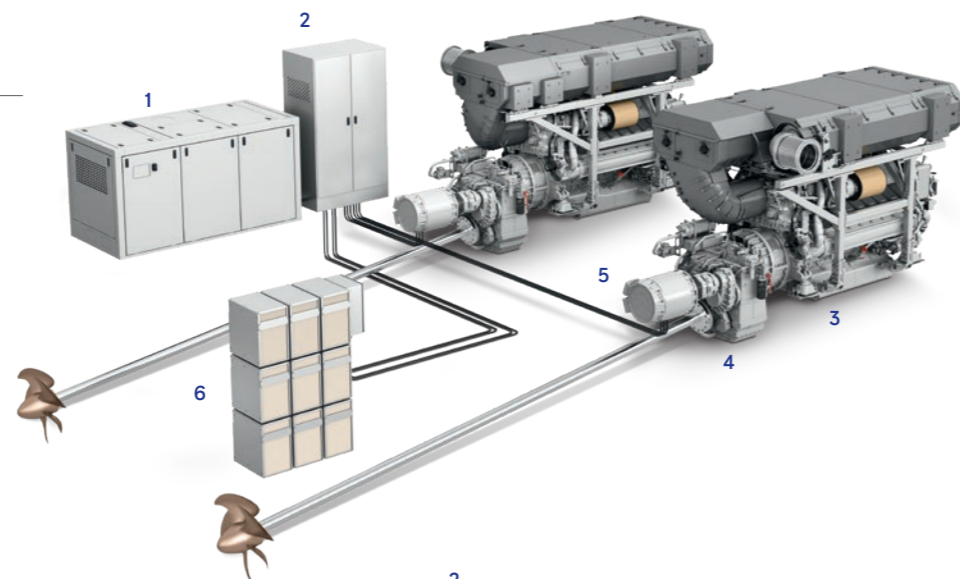


Hybrid systems for yachts

# HIGHER PERFORMANCE FEWER EMISSIONS

**mtu** Hybrid PropulsionPacks based on the proven **mtu** Series 2000 and 4000 are ideal for more flexibility and maximum ease of use.

- Example design of our **mtu** Series 2000 Hybrid PropulsionPack
- 1 Genset
  - 2 Power distribution unit
  - 3 Main diesel engines **mtu** Series 2000
  - 4 Gearbox
  - 5 Electric motor module
  - 6 Battery module

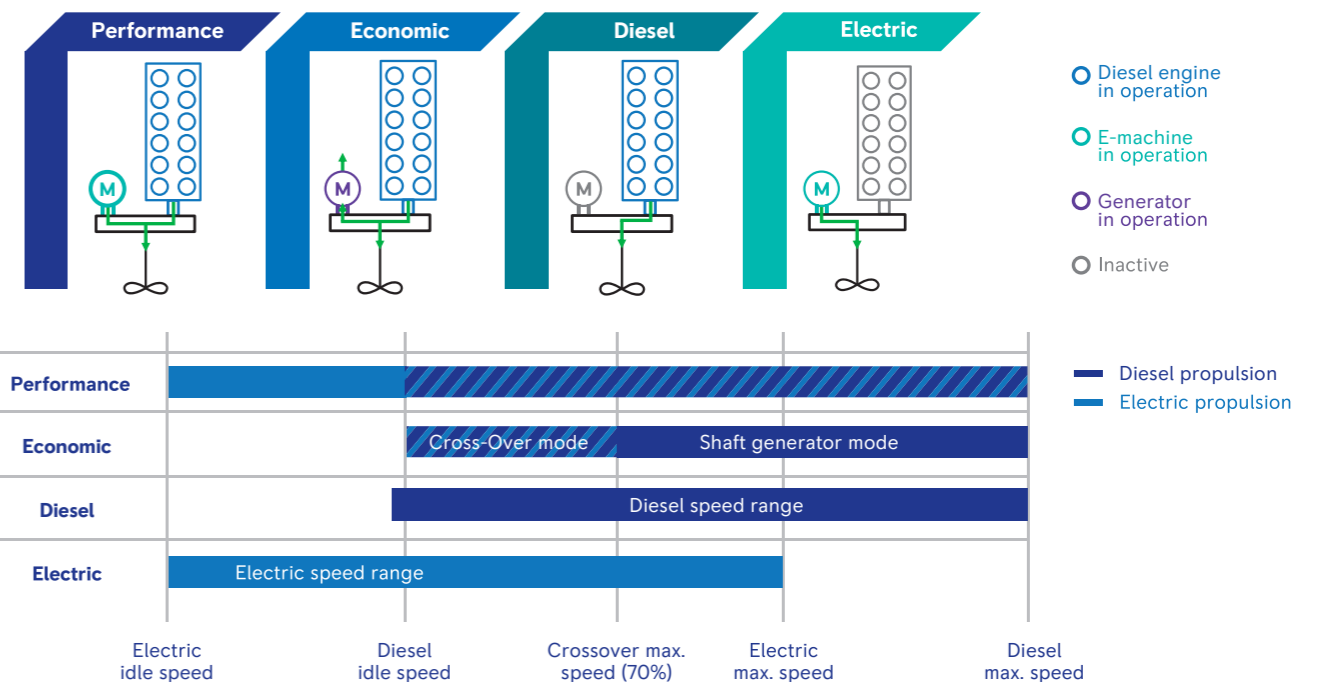


- Example design of our **mtu** Series 4000 Hybrid PropulsionPack
- 1 Genset
  - 2 Power distribution unit
  - 3 Main diesel engines **mtu** Series 4000
  - 4 Gearbox
  - 5 Electric motor module
  - 6 Battery module

## Different hybrid modes fulfill all customer use cases

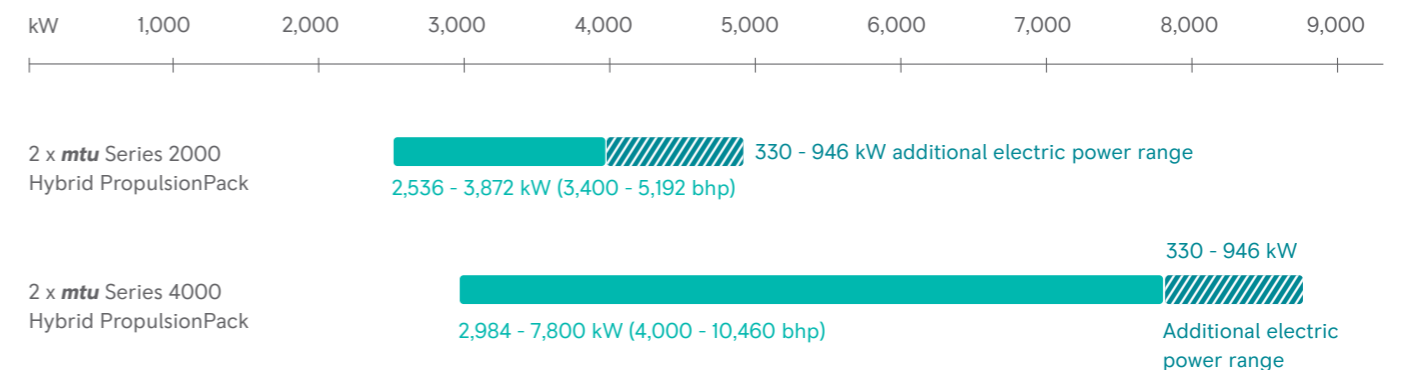
The propulsion modes for a vessel can be selected using a control lever. This lever allows the operator to choose between different hybrid modes. Depending on the selected mode, the engine provides the necessary power. On the other hand, the power supply modes can

be selected on a display. This enables the operator to choose how the vessel will receive power, whether it is from the diesel engine, electric machine, or both.



Find your hybrid solution that meets your individual needs. Scan the QR-Code and check out our **mtu** Hybrid PropulsionPack configurator for yachts.

## Full range of power



Marine automation solutions

# CONTROLLING THE POWER – **mtu** NautIQ

10

As a system supplier, we not only build a powerful engine for your yacht, but also the matching automation system to control all its power: With **mtu** NautIQ, you get a customized system that exactly complements the size and style of your yacht and the complexity of its automation needs.

For many years, our sophisticated automation systems have controlled, regulated and monitored the engine functions from bridge to propeller – always doing a perfect job! You enjoy the benefits of a complete package where everything is just right: not only optimum engine performance, but also maximum efficiency, uncompromising reliability and environmental compatibility.

The **mtu** NautIQ portfolio of automation solutions offers the ideal combination of performance and precision individually tailored to your yacht.

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Emotional design meets  
engineering proficiency:  
our bridge components from the  
cooperation with the Italian  
designer Pininfarina.

mtu NautIQ BlueVision NG

# THE RIGHT AUTOMATION SYSTEM FOR YOUR YACHT

mtu NautIQ BlueVision NG is a non-classifiable and classifiable monitoring and remote control system, incorporating a simple design and complete basic functionality. It is available in three versions – Basic, Advanced and Avantgarde – special designed for **mtu** Series 2000 and **mtu** Series 4000 engines and one to four engine propulsion plants. Their compact size makes for easy installation and commissioning. The optional Pininfarina bridge components interpret automation with their uniquely elegant design language.

**mtu NautIQ BlueVision NG\_Basic**

mtu NautIQ BlueVision NG\_Basic is a non-classifiable monitoring and remote control system, incorporating a simple design and complete basic functionality. It is connected via interfaces to the engine control system, the propulsion system and the auxiliary systems. Local operating panels (LOP) offer basic functionality for installation in the engine room.

**The extended and classified mtu NautIQ BlueVision NG\_Advanced**

The extended and classified monitoring and control system has a modular design allowing for flexible configuration. The intelligent technology ensures reliable data exchange and reduces the need for excessive cabling. Optimized interfaces between the propulsion and automation systems result in completely integrated solutions that guarantee security, efficiency and reliability – and all from one source.



Scan for more details



Scan for more details



Joystick Control Unit



Color Display MTD2

**mtu NautIQ BlueVision NG\_Avantgarde**

mtu NautIQ BlueVision NG\_Avantgarde provides the most sophisticated and extensively developed solution for standard propulsion automation. Without exception, we can always supply a complete system individually tailored to suit your vessel. mtu NautIQ BlueVision NG\_Avantgarde is a complete, single source solution which guarantees optimum safety, efficiency and reliability. mtu NautIQ BlueVision NG\_Avantgarde gives you an excellent overview of what matters most on your yacht, allowing you to manage the propulsion plant easily.



Scan for more details



Graphical User Interface (GUI), available in sizes from 15 to 24 inches.

designed by



A breath of fresh air in the yachting business – we maintain a cooperation with the Italian designer Pininfarina. The new design line concentrates on four bridge components: A control lever for clutch and engine speed control which is shaped like an engine rod, a tableau panel for engine control, a high resolution touch display for monitoring of the propulsion plant as well as analog instruments for engine speed, pressure and temperature.

All components can be integrated in our current automation product line **mtu** NautIQ BlueVision NG. Additionally, **mtu** cooperates with experienced partners to guarantee premium quality.

**Your benefits are:**

- Premium supplier with designer co-branding Pininfarina
- Unique design in the market
- Clear design line for bridge components
- Especially designed with a focus on yacht applications



**mtu** NautIQ BridgeONE PLATFORM. ONE DESIGN.  
ONE SOURCE.

**mtu** NautIQ Bridge is a fully integrated bridge solution. Created in partnership with yacht specialists Team Italia, this outstanding ensemble raises overall ship performance, improves safety and offers a new level of customer experience.

**Integration from bridge to propeller****One platform: Full integration**

The navigation equipment and all the yacht subsystems necessary to monitor and control the entire vessel can be seamlessly integrated in one platform. There is no need to modify third-party equipment or subsystems integrated into **mtu** NautIQ Bridge.

- Easy and consistent user interface to navigation equipment
- In-depth integration of propulsion system
- Multicontrol system – consistent control through a single device
- Touchscreen controls – allow easy HMI customization and software updates
- Equipment health monitoring and vessel optimization
- Connectivity & remote diagnostic of equipment condition

**One design: Elegant, intuitive, user-optimized**

All the information is presented in one elegant and user-optimized design. Easy and consistent user interface to navigation equipment.

- Total Navigation Control, simplified management
- Innovative design and functionality
- Safe and user-friendly thanks to consistent user interface
- Seamless user interface across all integrated subsystems

**One source: Dependability for builders and owners**

All the technology and services come from one source. One face to the customer for complete vessel operating system.

- Global service support, anytime, anywhere
- Seamless integration of product and technology
- Scalable, to integrate additional functions
- High flexibility for updates and upgrades



**Fully integrated offering**  
From bridge to engine room



**One face to the customer**  
For complete vessel operating system



**Global service support**  
Anytime, anywhere



**Scalable**  
To integrate additional functions



**Seamless integration**  
Of product and technology



**Unique innovation**  
Customized design and product features



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**mtu** NautIQ MasterINTEGRATED PLATFORM  
MANAGEMENT SYSTEM

**mtu** NautIQ Master is an Integrated Platform Management System and offers the optimal solutions to meet a wide range of requirements for all types and sizes of vessels. Typically used on military and complex commercial projects.

**Integrated Platform Management System (IPMS)**

With marine design becoming more sophisticated, and more capability being integrated with fewer people on board, only proven designs and software functionality can truly meet the demands within modern project time scales and risk profiles. As world experts in the field of integration, we introduce **mtu** NautIQ Master, the latest evolution of our powerful IPMS solution, allowing more COTS product integration. It is a true System of Systems capable platform.

This powerful mix of **mtu** NautIQ Master distributed processing and highly redundant architecture, coupled to industry standard equipment and protocols allows for a truly supportable platform, with minimal obsolescence risk. This reduces platform cost, integration time and commissioning/installation issues, whilst retaining the survivability and power of the original **mtu** NautIQ Master, with its scalability and flexibility in terms of system architecture.



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**mtu NautIQ Master overview**

**mtu** NautIQ Master offers advanced bespoke solutions designed to suit the complex automation and integration requirements for operators of specialist vessels.

**mtu** NautIQ Master is capable of providing a fully integrated turnkey electrical and automation solution, being a scalable and feature rich system capable of incorporating the following sub-systems and plug in modules:

- Alarm, Monitoring and Control System
- Integratable Navigation Bridge System
- Integratable Vessel Management System
- Integratable Communications
- Digital CCTV Surveillance
- Propulsion Control
- On Board Training System
- Power Management
- Condition Based Monitoring System
- Damage Control System

**mtu** NautIQ CoreALARM, MONITORING  
AND CONTROL SYSTEM

**mtu** NautIQ Core Alarm, Monitoring and Control System (AMCS) option is an entry-level system that offers a reliable and highly cost-effective solution and is designed using pre-engineered building blocks incorporating built-in expansion for future proofing. A selection of display systems are available to meet operational requirements and console design.

**mtu** NautIQ Core has been specifically created to deliver Commercial Off-The-Shelf (COTS) solutions for all shipping sectors including: Mega Yachts, Displacement Yachts, Performance Yachts or Sportfishing Yachts. The standard **mtu** NautIQ Core packages are future-proofed allowing for later integration of additional hardware, software and auxiliary equipment through the vessels lifetime.



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**mtu** NautIQ CoPilotCOMING SOON: THE VIRTUAL  
COPILOT AT YOUR SIDE

As a pilot assist system, **mtu** NautIQ CoPilot is our most advanced autonomous system, using digital marine sensors, embedded electronic charts, advanced autonomous algorithms and broad-area computer vision to support human-manual vessel operations with enhanced real-time understanding of objects, obstructions and traffic.

## Key features:

**Increased safety**

Autonomously handles re-routing and obstacle collision avoidance to significantly increase crew and vessel safety. It also reduces the risk of manual errors that could lead to accidents.

**Increased capabilities**

By supporting operators of steering and navigation duties, it allows them to focus on other tasks and potentially change their daily operations onboard.

**Increased productivity**

It fully independently executes the navigation of routine transit routes, boosting vessel efficiency and productivity.

**Greater accuracy**

Always on the watch, **mtu** NautIQ CoPilot perceives and analyzes more data than a human, detecting objects commonly missed by Automatic Identification System (AIS) and radar.

**Choose from three operating modes**

**mtu** NautIQ CoPilot consists of an onboard processing unit, camera system and processor, and user interface touch screen. Depending on the mission, **mtu** NautIQ CoPilot allows operators to choose between three data-driven automated vessel navigation modes – Guide, Guard and Voyage.

**Guide Mode** – visual indication and audible alert of potential transit conflicts with vessels or other obstacles as well as low depth. No active control.

**Guard Mode** – visual indication and audible alert of potential conflicts, giving operators signal to act. If no action is taken, the system takes over control to avoid dangerous situations.

**Voyage Mode** – autonomous control of a planned voyage from start to finish with many built-in behaviors and features specially developed to support a diverse set of on-water operations.

**Autonomous command at your control**

Operating under the command and in complete accordance with the mission plan of the onboard crew, **mtu** NautIQ CoPilot provides multiple benefits to operators:

- Enhanced situational awareness through sensor fusion and visual AI
- Navigation assistance or full autonomous command (3 modes)
- Reduced crew fatigue by being freed from routine tasks
- Voice command



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**mtu** NautIQ CoOperateFLEXIBLE VESSEL CONTROL  
FROM ANYWHERE

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**mtu** NautIQ CoOperate is an optionally self-piloting ship navigation and command system. It enables off-boat remote command, including all payloads on board, and offers situational awareness using cameras, sensors and other equipment, from a second location on another vessel or on shore.

**Autonomous self-piloting capabilities**

**mtu** NautIQ CoOperate consists of an onboard enclosure with flexible sensor integration and a ruggedized laptop. The system can also be used with the optional **mtu** NautIQ CoDirect beltpack for remote control when operated within 1,000 m of the vessel.

networks, or satellite communications. The vessel can also move autonomously from waypoint to waypoint, execute a survey or search-and-rescue pattern, or match the course and speed of the mothership. The system can also be set for timed tasks, such as loitering at a waypoint or activating a payload.

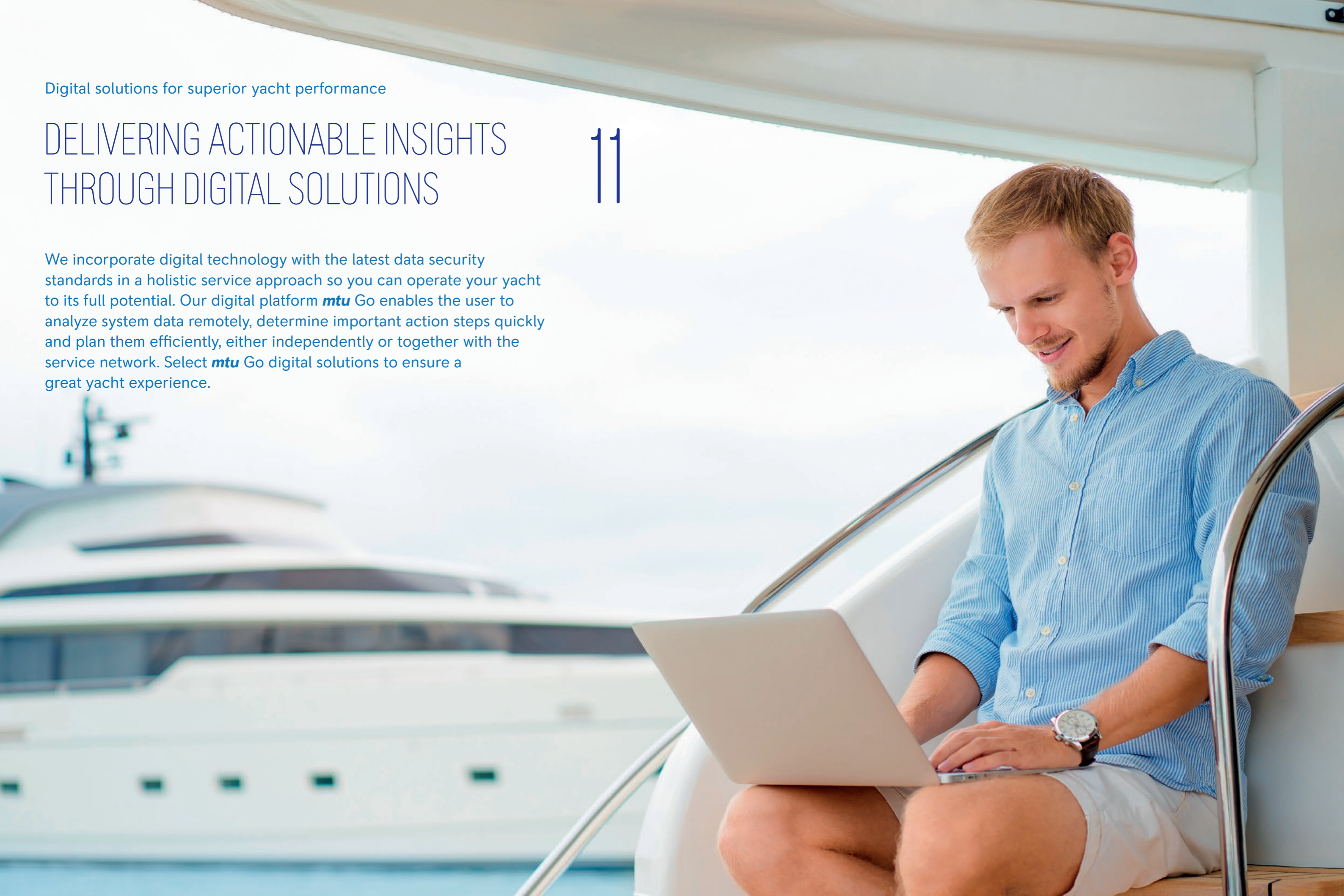
Where a secure link infrastructure is available, **mtu** NautIQ CoOperate allows vessels to be commanded from anywhere using IP radio, 4G

Digital solutions for superior yacht performance

# DELIVERING ACTIONABLE INSIGHTS THROUGH DIGITAL SOLUTIONS

11

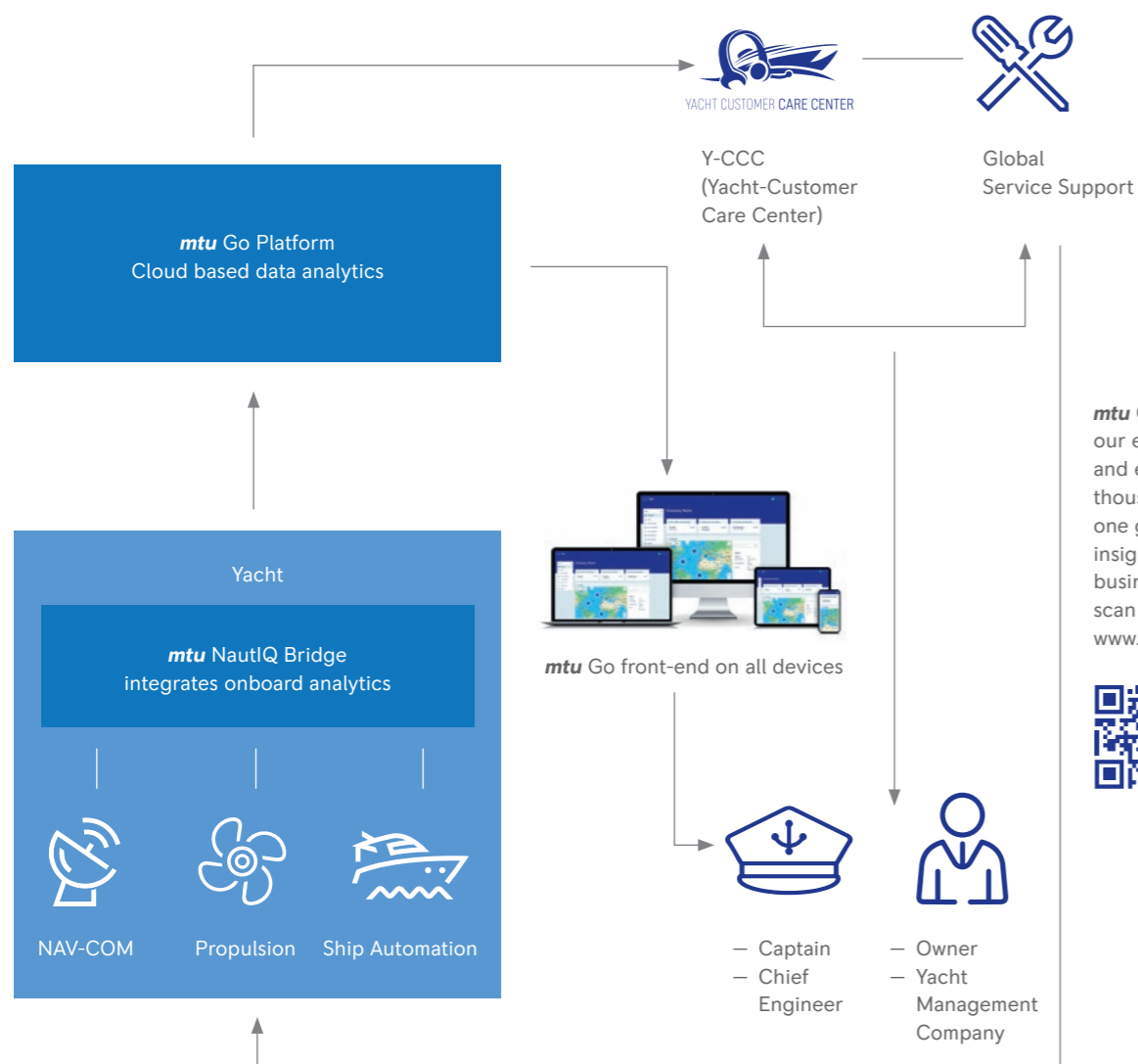
We incorporate digital technology with the latest data security standards in a holistic service approach so you can operate your yacht to its full potential. Our digital platform **mtu** Go enables the user to analyze system data remotely, determine important action steps quickly and plan them efficiently, either independently or together with the service network. Select **mtu** Go digital solutions to ensure a great yacht experience.



Digital yacht solutions

# DIGITAL SOLUTIONS FOR SUPERIOR YACHT PERFORMANCE

Yachting has great demands on engines and propulsion systems. Ensuring that a yacht is available for optimal use, means making the right maintenance decisions. Our digital solutions enable you to keep track of operating hours, system alarms and maintenance schedules so you can plan service intervals based on existing documentation more effectively.



## mtu Go

### Delivering actionable insights through digital solutions



**Connect all your equipment**

**Data collection from your yacht, system and engine**

Connectivity is the basis for all the advantages of digitally supported service. Using our edge software connected to the control unit, you and your service network can monitor relevant deviations from the optimum condition remotely. We offer several ways of collecting data, including the creation of interfaces to already existing data sets. In doing so, we always adhere to the highest data privacy and security standards of our industry.

**Access your data**

- Data privacy and security to the highest industry standards
- Different device and software options ensure optimal connectivity
- Remote monitoring, available for individual or multiple yachts



**Monitor your yacht**

**Visualization of data for a quick and accurate overview of your yacht**

With the *mtu Go* platform, predefined users, such as captains or yacht managers, can view the system data and perform initial analyses by using diagnostic tools. By accessing the technically relevant information, your service network can provide fast support in handling alarms and planning necessary maintenance together with you. Open interfaces allow you to interface directly to your existing dashboards or systems.

**Keep track of your data**

- All important data and alarms available at a glance for efficient monitoring
- Intuitive and clear design for easy operation
- Visual comparison of data using the diagnostic tools for initial analyses



**Manage your yacht**

**Digital solutions for your detailed data analysis on necessary actions**

Supported by *mtu Go* your Service Network is able to analyze all relevant data from your equipment and compare it with data trends. From that point on we can proactively derive recommendations for action together.

In future, the analysis can be enriched with additional external data sets, such as environmental influences or time schedules to create new opportunities for optimized planning.

**Learn from your data (under development)**

- Algorithms for proactive early detection of deviations
- Troubleshooting based on large amounts of data with artificial intelligence
- Comparison with data outside own fleet leads for faster knowledge transfer and optimal service tool for initial analyses



Premium yacht service

# LEAVE YOUR WORRIES ON SHORE – GLOBAL SUPPORT 24/7

# 12

When you choose us, you join an elite class of yacht owners, designers, builders and marine engineers who demand only the most powerful, reliable and sophisticated engines. To keep those engines performing optimally for years to come, our engines come with a best-in-class warranty and several complementary **mtu** ValueCare products and services.

**Your new engines already include\***

- Prompt, expert support from more than 1,200 locations worldwide
- Immediate attention 24/7 from our Customer Assistance Center
- Free re-commissioning inspection, familiarization, orientation and performance sea trial
- A global inventory of genuine parts to maximize availability
- Comprehensive 24-48 month warranty

\*see your warranty for details

**Training sessions for captains and crew**

Our captain and crew training – a free-of-charge training module for captains and shipyard personnel – is a great way to get maximum efficiency from your equipment.

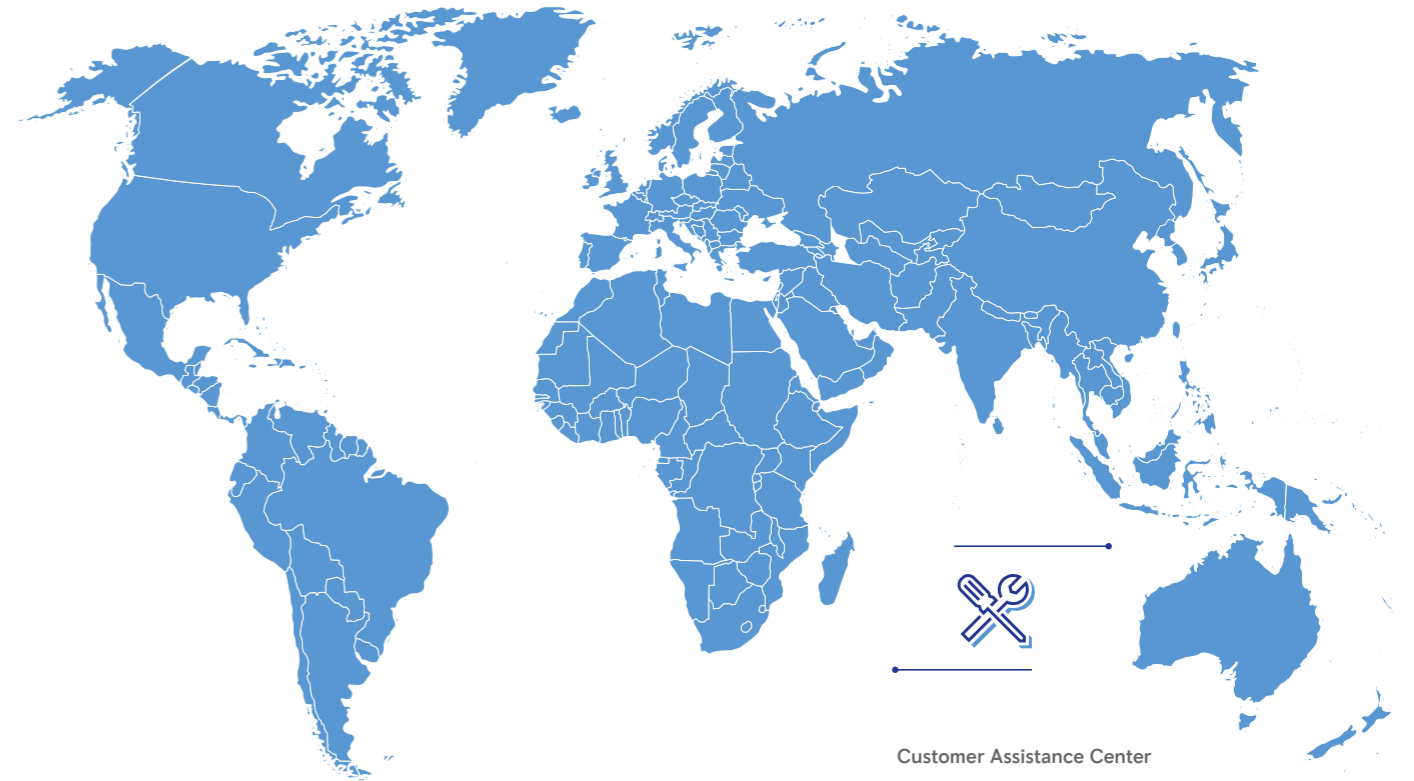
**Premium power deserves premium service.**

It's more than a yacht. It's a symbol of your sense of adventure and your freedom from an ordinary life. A personal dream fulfilled.

Our job is to make sure you can live that dream anytime, anywhere, confident that we're ready when and where you need us. That's why **mtu** ValueCare products and services are the perfect complement to your **mtu** yacht engines.



## PREMIUM YACHT SERVICE



**Customer Assistance Center**

One call is all it takes. Agents are available 24/7 to respond to your inquiries and any service needs.

**Customer Assistance Center**  
+49 7541 90-7777

**Asia/Pacific**  
+65 6860 9669

**North and Latin America**  
+1 248 560 8888

**E-mail:**  
info@ps.rolls-royce.com

Premium yacht service

# ONE SMART INVESTMENT DESERVES ANOTHER

You're justifiably proud of your yacht. From her powerful performance and unmatched beauty to her handpicked décor, it reflects your individuality and passion. Your yacht is also a substantial investment. You should be able to cruise confidently, enjoying every moment along the way. That confidence starts with reliable engines and continues with **mtu** ValueCare premium products and services.

The only service portfolio designed with your propulsion system in mind to:

**Protect your investment.**

- Extended Coverage (EC) provides added protection beyond the standard warranty and is fully transferrable, enhancing resale value. Extendable up to 11 years, it's also available for used **mtu** equipment.
- Certified **mtu** technicians keep your equipment performing optimally and help you avoid the unexpected.
- Annual Check provides yearly inspections and maintenance recommendations from the experts who know your engines best.

**Extend equipment life.**

- Genuine parts and consumables keep everything running smoothly.
- Reman and Overhaul solutions turn back the clock, giving your equipment a powerful new life.

**Optimize ownership.**

- ValueCare Agreements maximize equipment reliability and optimize lifecycle costs.
- **mtu** Go helps you monitor activity from afar so you can identify faults early and make informed decisions quickly.
- Remanufactured products keep your costs down without compromising quality.
- Training empowers your captains and crew with invaluable hands-on experience.



Up to 11 years warranty - longest warranty in the industry.



Higher resale value of the yacht with factory warranty.

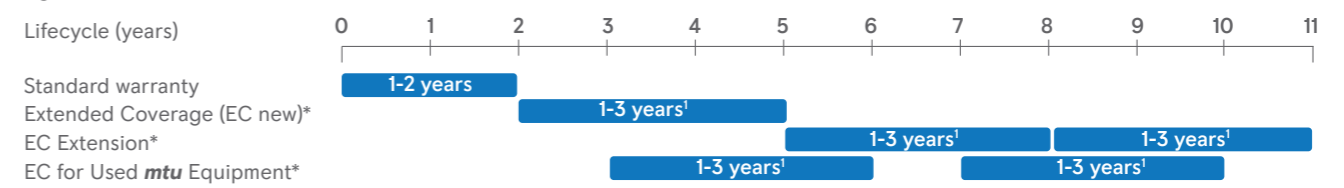


Peace of mind against corrective maintenance costs.



Warranty scope and options Extended Coverage (EC)

Agreement start and duration



\* See your EC Terms & Conditions for details

**Costs covered<sup>2</sup>**

In case of corrective claim: material, labor, travel costs (optional)

**Covered equipment**

**mtu** engine, gearbox, automation system (only if **mtu** scope of supply)

**Place of Performance**

Authorized **mtu** service partners worldwide

**Deductible**

EUR 500 per repair visit and propulsion line

<sup>1</sup> Maximum validity period limited by extended warranty end date / max. operating hours, whatever occurs first

<sup>2</sup> Exclusions: e.g. Removal & reinstallation of engine, gearbox etc. and all preventive maintenance



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