

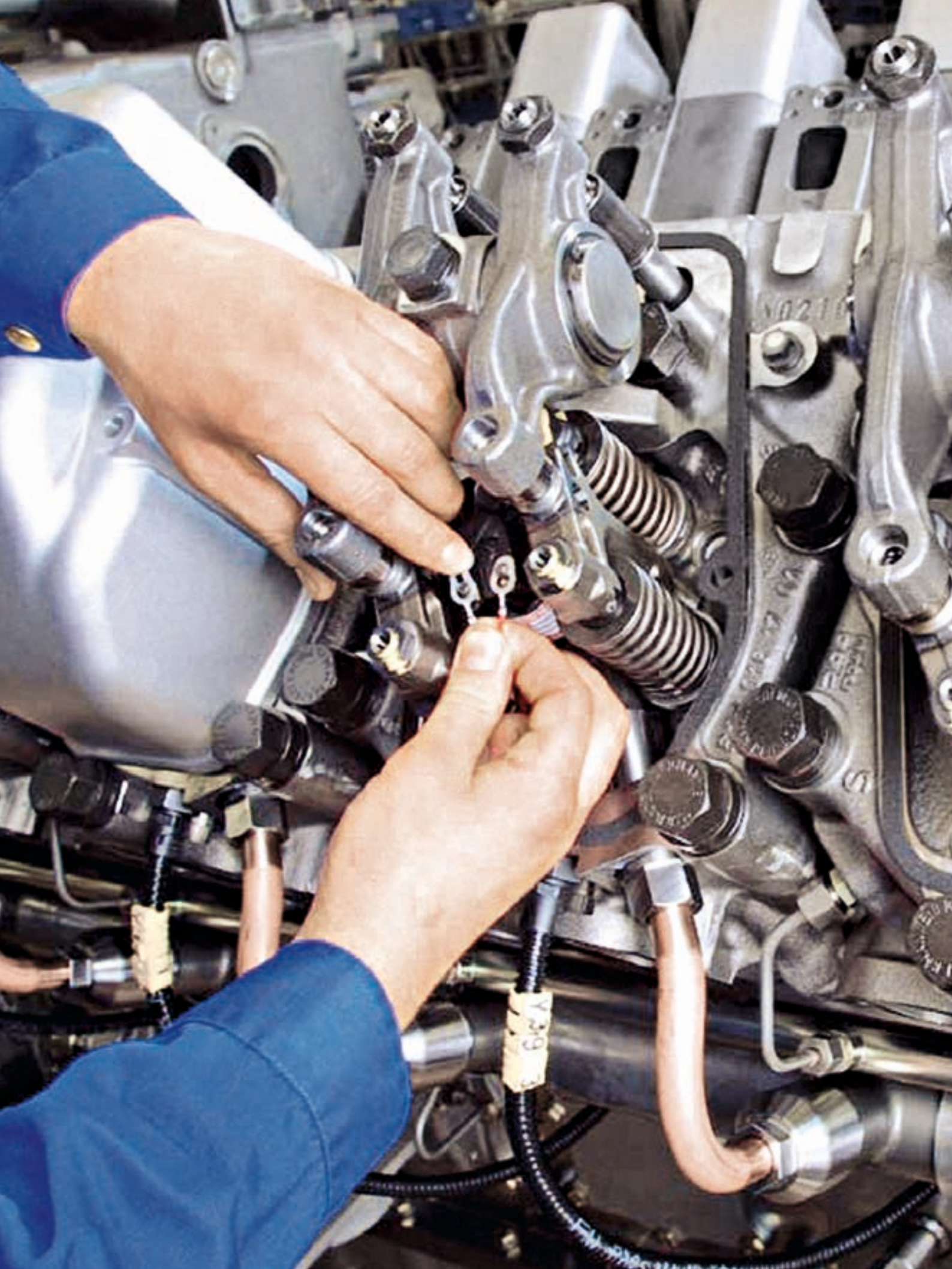


MTU ValueCare

COMPLETE LIFECYCLE SOLUTIONS.

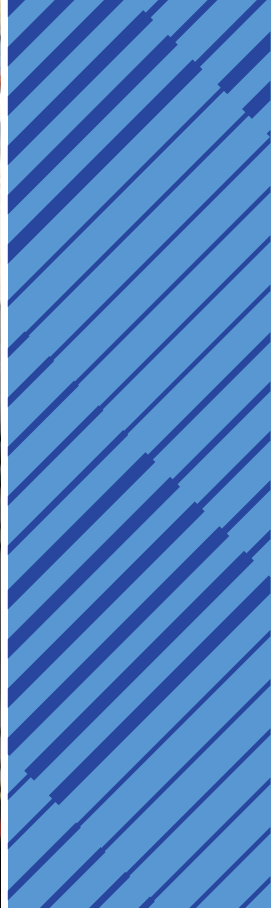


A Rolls-Royce solution



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PIONEERING THE POWER THAT MATTERS.

01

Rolls-Royce provides world-class power solutions and complete life-cycle support under our product and solution brand MTU. Through digitalization and electrification, we strive to develop drive and power generation solutions that are even cleaner and smarter and thus provide answers to the challenges posed by 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. These clean and technologically-advanced solutions serve our customers in the marine and infrastructure sectors worldwide.



A solution provider

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

Our customized service offerings help you maximize uptime and performance and are supported by our digital solutions, which enable remote monitoring, predictive maintenance and a range of other benefits that keep your systems running at their best.

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

An expert in technology

As part of Rolls-Royce, we have long been known for cutting-edge innovation and technological leadership in product development. 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 work 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 life-cycle solutions that best fit your 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.



1 Technological leader

As a supplier of high-quality performance drive solutions, we stand for the highest level of technological expertise.

2 Passion

We are passionate about fulfilling the needs of its customers with the utmost professionalism and precision.

3 Partnership

We're a reliable and trend-setting partner that acts with foresight in a results-oriented manner.



YOU'VE MADE A POWERFUL INVESTMENT. WE'LL HELP YOU PROTECT IT.

02

Our engines and systems are built to deliver robust, reliable performance. But our commitment to your success doesn't end there. For peak performance, longer life and optimized costs, rely on the only service solutions designed specifically with your equipment in mind.

Improve performance and extend equipment life.

- Avoid the unexpected with professional service from MTU-certified technicians (page 14)
- Keep your equipment running smoothly with genuine filters, oils, coolants and OEM parts (page 16)
- Empower your operators and maintenance personnel with extensive, hands-on training (page 21)
- Keep a good thing going with factory remanufacturing and rebuild solutions (page 22)

Optimize costs without increasing risk.

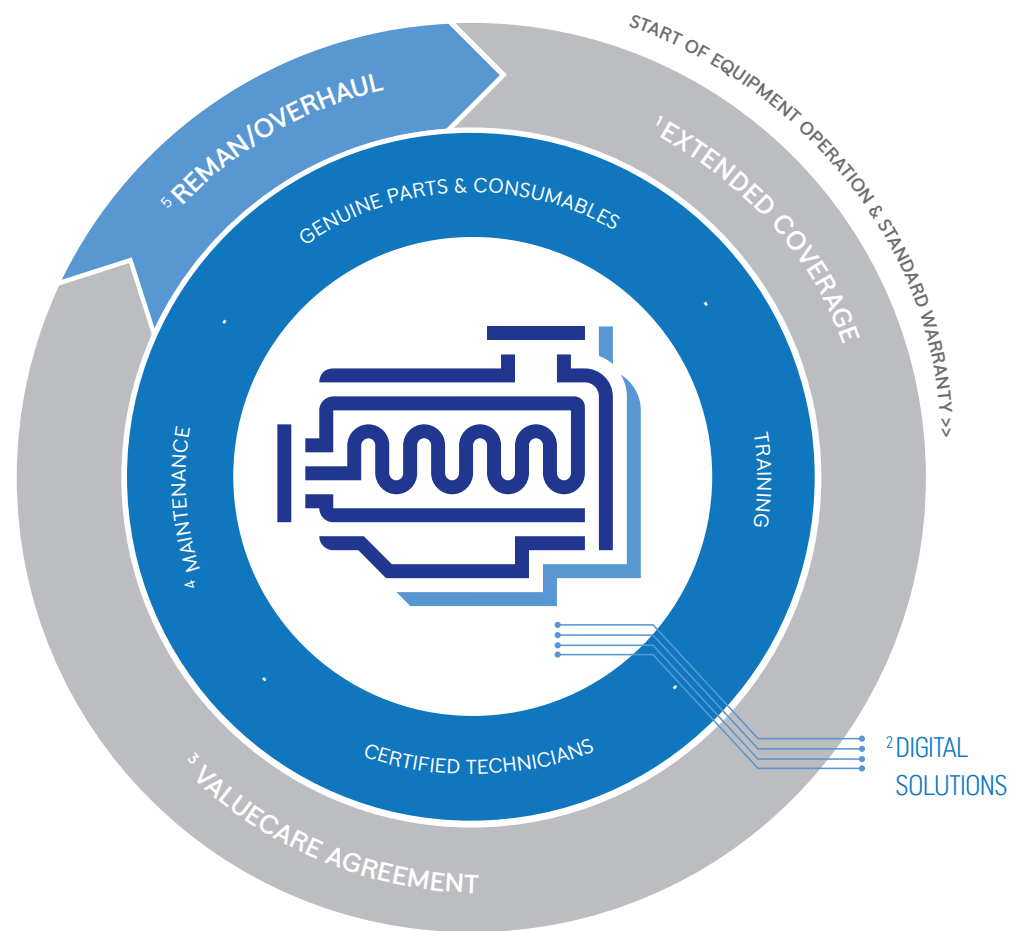
- Maximize fuel economy and uptime with preventive maintenance services (page 11)
- Achieve cost-certainty and optimal availability with ValueCare Agreements (page 26)
- Protect against the cost of repairs with Extended Coverage beyond the standard warranty (page 29)
- Proactively monitor equipment health and activity from afar with Digital Solutions (page 30)
- Spend less on parts without compromising quality through our remanufacturing program (page 32)

MTU ValueCare products and services are available worldwide through our extensive network of more than 1,200 service locations. Contact your local service partner today and ask how MTU ValueCare can be customized to meet your unique needs.

How complete lifecycle solutions help

ENSURE A LONG, RELIABLE LIFE.

As your equipment ages, its needs—and yours—change. Our full portfolio of service solutions wrap around your investment, providing 360 degrees of customized support, for optimal value at every stage of life.



- 1 Avoid the unexpected with added protection beyond the standard warranty.
- 2 Make better decisions faster with digitally-enhanced tools.
- 3 Maximize availability and optimize lifecycle costs with a ValueCare Agreement.
- 4 Improve system performance and extend equipment life with on-demand support.
- 5 Keep a good thing going with factory reman/overhaul solutions.





Why preventive maintenance is essential

DON'T LET THE UNKNOWN LEAVE YOU UNPREPARED.

With large investments, lifecycle costs can be significant. It's often the unforeseen costs lurking below the surface—things like fuel consumption, unplanned downtime and repairs—that have the greatest potential to impact your business. That's why it pays to invest in our superior power systems and plan ahead with preventive maintenance. There's no better way to optimize fuel economy, maximize uptime and avoid the unexpected.

Optimize fuel economy.

Fuel consumption accounts for up to 90 percent of total lifecycle costs depending on the application—by far one of the most significant costs associated with your equipment. Well-maintained MTU engines deliver industry-leading fuel efficiency, helping you keep fuel costs down over the long term.

Maximize uptime.

Preventive maintenance services can be planned around your schedule, so your equipment is available when you need it most.

Avoid the unexpected.

Planned maintenance helps solve problems before they start, helping you avoid unexpected downtime and resolve problems early before they escalate.

Work with one source.

MTU keeps maintenance simple, safe and efficient. Our factory-approved methods and expert technicians ensure everything is done correctly according to proprietary MTU preventive maintenance schedules, optimizing the availability of your equipment, reducing lifecycle costs and helping you avoid unforeseen problems.

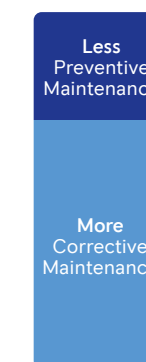
The Importance of Preventive Maintenance

When preventive maintenance is a high priority.

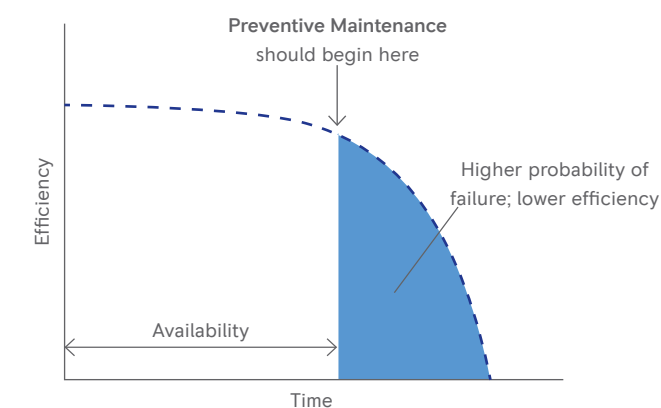


1. Scheduled stops
2. Improved performance
3. Better control over operation

When preventive maintenance is a low priority.



1. Nonscheduled stops
2. Inability to plan
3. Lower performance



MTU focuses on preventive maintenance to reduce the downtime and added costs of corrective maintenance.

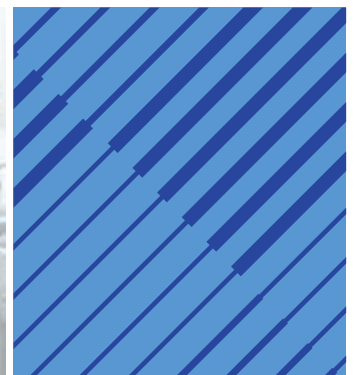
Delaying maintenance increases unexpected failures and decreases performance and fuel economy.



IMPROVE PERFORMANCE AND EXTEND EQUIPMENT LIFE.

03

Your equipment is built to last, thanks to our legendary engineering standards. And you can continue to expect that same commitment to quality long after your equipment leaves our factory. For peak performance and long equipment life, count on our global network of factory-certified technicians, our full line of genuine OEM parts and consumables, and our wide range of supportive services.



Factory-certified technicians

RELY ON OUR EXPERTISE.

To give your equipment a long and productive life, choose a partner you can trust. Only factory-certified technicians know how to get the job done right using proven service methods, factory-specified maintenance schedules and genuine OEM parts.

From preventive maintenance to complete overhaul, MTU is your true lifecycle partner. Whatever level of support you need, our global network of factory-trained professionals knows all about your equipment and is ready to help you maximize performance and minimize lifecycle costs.

Never compromise.

MTU engines and systems are built to last with legendary high standards. When it's time for service, don't settle for anything less. Protect the life of your equipment with professional MTU-certified service technicians and genuine OEM parts and consumables—the only options that live up to MTU standards for craftsmanship, quality and performance. To get the most from your equipment, there are no shortcuts. For maximum reliability, performance and uptime, choose a name you can trust—MTU.

If you need us a little:

On-Demand Support—including professional inspections and preventive maintenance recommendations from MTU—helps you identify and address problems early, save on repairs or unexpected downtime, and optimize your equipment's performance and longevity. Inspections include visual assessment, test run and leak check, on-site oil and coolant analysis, diagnostic evaluation and reporting.

If you need us a lot:

ValueCare Agreements make it easy to keep your business running smoothly and reduce total cost of ownership by maximizing uptime, optimizing lifecycle costs and helping you avoid equipment-related business disruptions through preventive maintenance. Learn more about ValueCare Agreements on page 26.



Filters, oils, coolants

KEEP EVERYTHING
RUNNING SMOOTHLY.

When it comes to protecting your engine, we think you'll agree—only the best is good enough. Genuine filters, oils and coolants from the factory work in perfect harmony with your equipment to maximize its performance, prolong its life and protect it—making them an essential part of your preventive maintenance program.

Filters, oils and coolants that have not been tested by MTU can lead to significant damage to your equipment. Our consumables are rigorously tested and approved specifically for your MTU equipment—an assurance only MTU can provide. Their superior design and top-quality materials maximize performance and minimize total cost of operation—and enhance your peace of mind.

Keep it clean.

Filters protect critical engine areas from harmful particles and contaminants that can cause premature wear and reduce component life. Our full line of robust and resilient air, pre-fuel, fuel, engine oil and coolant filters are formulated specifically for MTU engines to ensure reliable performance and long life. They're engineered to resist premature plugging and resist collapse, even under severe duty, so you can count on them for reliable filtration throughout the service interval.

Protect and lubricate.

Engine oils play a vital role in protecting engines and systems. Our full line of genuine oils is formulated specifically for MTU engines based on intensive research. Designed to maximize performance and protect your engine from harmful wear, corrosion and particles, oils provide outstanding piston cleanliness even under high thermal loading. They also feature exceptional consumption control and thermal stability, maintaining their specified viscosity and reducing shear even in severe applications.

Maintain optimal temperatures.

Coolants keep engine temperatures optimal under all operating conditions. Thanks to extensive research, our coolants are designed to optimally protect MTU engines, with exceptional thermal transfer characteristics and high temperature stability. Their low freezing point prevents damage in cold environments, while their elevated boiling point safeguards against hot conditions and severe duty, preventing overheating. Genuine coolants also protect against all kinds of corrosion—which leads to leaks and other costly damage—by producing a durable protective layer that insulates cylinder liners and water pumps from cavitation (pitting) damage.



Genuine OEM parts

DEMAND GENUINE.

Count on us for genuine replacement parts that are designed, tested and approved specifically for your engines and systems. Genuine parts maximize performance, prolong engine life and meet today's strict requirements, all thanks to years of intensive research and development, quality audits, and progressive modifications—making them the best possible match for your engine.

Our parts are backed by a full factory warranty, plus a wide range of support.

Get back to work quickly.

We share your obsession with uptime. So we make sure a wide range of genuine parts are available for our full line of engines and systems, including classic MTU, Detroit Diesel and Mercedes-Benz engines for off-highway applications. Whatever you need, wherever you are, we'll get it to you fast through our cutting-edge MTU Parts Logistics Centers and our global network of more than 1,200 service centers.

Be fully supported.

You can count on parts availability and delivery for your product's entire lifecycle—which can last for decades. We offer everything needed for a turnkey installation, including professional consulting, special tools, rental tools and spare parts kits. In addition to new spare parts, we offer a cost-effective alternative—a full line of remanufactured parts. For added peace of mind, all MTU parts are backed with a full factory warranty.

Ask the experts.

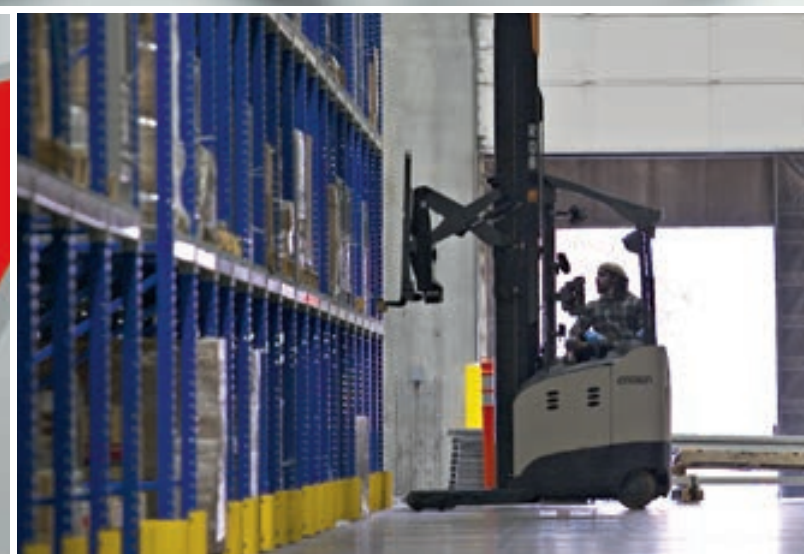
Ordering genuine parts is easy—they're all available from one source, helping reduce complexity and costs in your supply chain. MTU product experts provide invaluable technical support and troubleshooting to get you exactly what you need. Our team will search our advanced and extensive online parts catalog—linked to factories and warehouses with high-speed connections—to identify the correct parts and promptly fulfill your request.

Expect powerful logistics.

Think of MTU's parts logistics system as one virtual warehouse with three state-of-the-art locations—strategically located in Europe, America and Asia—and over 1,200 access points through our global distribution network. Every location is based on the same operating systems and processes for global consistency and efficiency.

Our globally integrated approach enables us to:

- Deliver a world-class customer experience, providing maximum availability and visibility.
- Fulfill your order, even if your nearest location is out of your requested material, thanks to seamless and transparent adjustments between our three locations.
- Continuously upgrade our logistics capabilities through benchmarking, optimization, and global replication of improvements and refinements realized at individual facilities.



Support services

EMPOWER YOUR TEAM.

Whether you're learning how to operate your equipment effectively or developing your own on-site maintenance capabilities, count on our experience and expertise to set you up for success.

Get the details you need.

Technical Documentation helps you maximize MTU engine and system performance and longevity by providing complete, clear information for effective operation and maintenance. Tailored to the unique needs of your equipment, our technical documents specify the correct fluids and lubricants, suggested preventive maintenance schedules, and safety requirements for maximum reliability and uptime.

Learn from the best.

Training is a great way to become proficient with MTU engines and systems and get maximum efficiency from your equipment. From preventive maintenance to diagnostics and repair, our training programs provide a hands-on learning experience with knowledgeable, expert trainers. We offer a wide range of customized training programs around the world to maximize your return on investment.

Borrow our expertise.

Workshop and Test Bench Solutions optimize your workshop and test bench projects by providing a full range of tools and expertise that only MTU can offer. From construction to turnkey delivery of operational facilities, we offer the complete package—planning and design, project management, on-site support and supervision—all tailored to your individual needs from a single source.

Bring everything you need.

Service Units simplify on-site service and support in remote locations by integrating workshop, storage and office facilities into a transportable, turnkey solution from MTU. With dimensions similar to a standard 40' high cube container, they provide plenty of space for service work, spare parts storage and administrative tasks. Every unit includes an air-conditioning system, hydraulic press, air compressor, workbenches, fold-down tabletops, heavy-duty shelving, desks and filing cabinets—and a diesel genset and drilling/milling machine on demand. And they can be set up in virtually any location, providing confidence and peace of mind in one convenient package.



Factory reman/overhaul solutions

KEEP A GOOD THING GOING.

Your equipment was built to last, thanks to our legendary high engineering standards and unwavering commitment to service and support. And after a long and productive life, we provide options to help you go even further.

Exchange and save.

Factory Remanufactured Solutions involve replacing your existing engine and system with a remanufactured unit provided by your MTU service partner, and returning your original core for a credit. Utilizing the core exchange program minimizes downtime.

Learn more about factory remanufactured solutions on page 32.

Turn back the clock.

Factory Overhaul Solutions involve the complete restoration of your original equipment. This solution is best for classic and specialized engines that lack the necessary population for a meaningful core exchange program or require a greater level of customization during the restoration and validation process, such as Series 183, 396, 493, 538, 595, 652, 956, 1163 and other engine Series (e.g. 2000 and 4000) on request.

Set an age limit.

Lifetime-Based Overhauls are ideal for engines that reach a lifetime limit (years) with low operating hours, such as emergency generator sets. This scheduled solution provides the same peace of mind as a traditional overhaul at a fraction of the cost because only timeworn components are replaced, and the removal and reinstallation of the engine is not required.

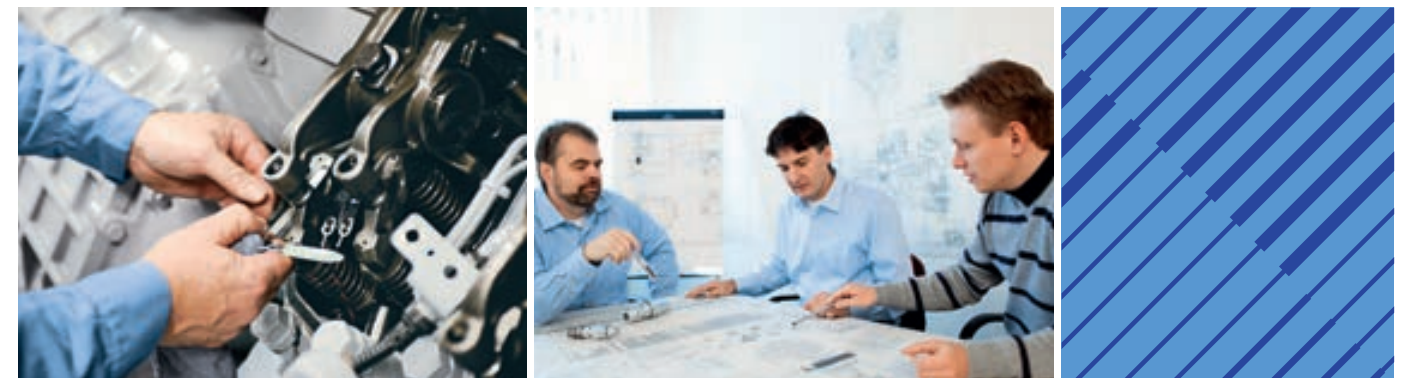




OPTIMIZE COSTS WITHOUT INCREASING RISK.

04

Our engines and systems are among the most technologically advanced on the market. Attempting to reduce lifecycle costs by using non-certified technicians or non-genuine components is simply not worth the risk—they can compromise your equipment's performance, increase emissions, cause irreparable damage and even void your warranty. To optimize lifecycle costs safely, we offer several powerful solutions.






ValueCare Agreements

FOCUS ON YOUR OPERATIONS. LEAVE THE REST TO US.

You've got a tough job. With us as your partner, you'll you get the power, performance and peace of mind to get it done right. Our digitally connected power systems, wrapped in ValueCare Agreements, make it easy to keep your business running smoothly and reduce total cost of ownership by maximizing uptime, optimizing lifecycle costs and helping you avoid equipment-related business disruptions through preventive maintenance.

Service solutions designed around your priorities

ValueCare Agreements make it easy to optimize lifecycle costs, maximize uptime and devote more time and resources to your core business, with tailored solutions to move your business forward.

		
<p>Bronze</p> <p>Ensure parts availability and price stability</p> <ul style="list-style-type: none"> - Digital connectivity (Go! Connect) and platform access (Go! Manage) - Automated delivery of parts (preventive) at a predefined rate based on operating hours - Preventive maintenance labor options to fit your business needs - Dedicated MTU support for technical issues - Quarterly reporting of completed and upcoming maintenance and costs - Annual on-site engine health check by MTU technician 	<p>Silver</p> <p>Eliminate unexpected maintenance costs</p> <ul style="list-style-type: none"> - Proactive maintenance planning, troubleshooting and remote engine health monitoring - Fixed pricing per operating hour for maintenance and repairs - Key corrective maintenance components always in-stock at main MTU warehouses - 24/7 standby service with remote technical support - Quarterly reports, including reliability analysis (mean time between failure) <p><i>Silver also includes all benefits of Bronze level</i></p>	<p>Gold</p> <p>Maximize operational uptime</p> <ul style="list-style-type: none"> - Operational uptime commitment to meet or exceed your availability targets - Regular supervision by local service partner (e.g. monitoring of parts stock, improvements) - 24/7 emergency assistance with on-site support - Monthly reports, including availability and average repair times - Asset health monitoring - Annual performance meetings and trend analysis with MTU to address technical updates, engine fleet data, operational optimization and more <p><i>Gold also includes all benefits of Silver & Bronze levels</i></p>

ValueCare Agreements help you:

-  Increase operational uptime
-  Guarantee parts availability and service quality
-  Predict equipment-related costs
-  Optimize maintenance planning
-  Connect to MTU, 24/7

Proof from the field:

"Delivering a best-in-class travel experience requires an uncompromising commitment to quality. And that's exactly what we get from MTU—reliable power systems with complete lifecycle support."

Andy Clarke
Head of Commercial Engineering,
Great Western Railway

"Our Maintenance and Repair Contract (MARC) with MTU (Asia) since 2010 has contributed significantly to more efficient and reliable ferries allowing us to achieve a high operational state of readiness and availability. All thanks to MTU's competent and skilled engineering workforce"

Sebastian Koh
General Manager,
Bintan Resort Ferries



Extended Coverage

PROTECT YOUR INVESTMENT.

Your engines—backed by Extended Coverage beyond the standard warranty—provide invaluable peace of mind. With Extended Coverage, you can be assured that the costs of unplanned repairs are covered, with service performed by factory-certified technicians—upholding resale value and ensuring long-term confidence in your investment.

Cover the unexpected.

Extended Coverage protects you from the cost of unexpected repairs beyond your standard warranty, with professional service from MTU-certified technicians and coverage tailored to your needs. Packages can also be extended up to five years and are fully transferable, enhancing resale value. Coverage includes all materials and labor for troubleshooting, fault clearance, and corrective services to engines and on-engine electronics (excluding gearbox, alternators or similar components). To ensure maximum quality, all repairs are conducted using only genuine MTU parts.

For pleasure craft customers, Extended Coverage protects against the cost of unexpected repairs to the entire propulsion system. The package is fully transferable, which enhances resale value. And with expert service performed worldwide by MTU-authorized service centers, you gain invaluable peace of mind.



Digital Solutions

THE FUTURE IS DIGITAL.

For over 100 years, we've been known for technological innovation and leadership—driving efficiency and reliability to new heights. Today, we're applying that same spirit of innovation to digitalization. Fueled by your system's data—and supplemented with our exclusive expertise, smart analytics and extensive database—digital solutions magnify the power of your investment.

From proactive failure prevention and intelligent troubleshooting to instant failure support and smart maintenance planning, digital solutions unlock the full potential of your MTU system.

 **Go! Act**
1. Service in your pocket

Designed to support on-site operators of MTU-powered equipment, Go! Act:

- Receives push notification of failure codes from connected assets
- Provides crew members with vital information about failure codes
- Supports event reporting with convenient photo capture functionality
- Enables direct communication with fleet managers or the MTU Customer Assistance Center


 **Go! Manage**
2. Monitor your fleet

Built for fleet managers with MTU-powered equipment, Go! Manage:

- Provides a live overview of fleet, asset and engine conditions
- Displays active and closed alarms
- Enables interaction and communication with on-site staff via Go! Act
- Shows maintenance schedule, with completed tasks clearly marked
- Supports remote troubleshooting via multigraph



Remanufactured Products

EXCHANGE AND SAVE.

Factory remanufactured products deliver the same high standards of performance, service life and quality as new products, along with identical warranty coverage—at a fraction of the cost. And with design and model-related updates, they also feature similar technological advancements. Developed by R&D engineers, the remanufacturing process saves you time and money, while benefiting the environment through the reuse of materials. To help you work efficiently, a wide range of remanufactured parts, engines and systems are available worldwide.

Reduce lifecycle costs.

As you evaluate your long-term power needs, you must consider a variety of factors. Factory remanufactured products are a smart solution, helping you reduce the total lifecycle cost of your equipment.

- Acquisition costs: Remanufacturing saves energy, resources and other costs associated with producing new products. These savings are passed on to you.
- Operating costs: Factory remanufactured products are fully remanufactured according to strict factory standards, resulting in reduced fuel and oil consumption compared to other used products.
- Maintenance costs: Model-related updates made during the remanufacturing process lengthen equipment life, while customizing maintenance to the engine's specific load profile further extends equipment life and lowers maintenance costs.
- Warranty exposure: Factory remanufactured products are backed with the same warranty coverage as new products.

Save time.

Factory remanufactured products put your equipment back to work faster than an overhaul, which reduces downtime, service time and indirect costs such as storage. Rather than wait for your original MTU equipment to be repaired or overhauled, you are supplied with a remanufactured unit. You then receive a credit in exchange for your original core, depending on its technical condition. With our no-hassle core acceptance policy, we provide the total costs to replace your product upfront—preventing unplanned costs. It's that simple.

Maintain factory standards.

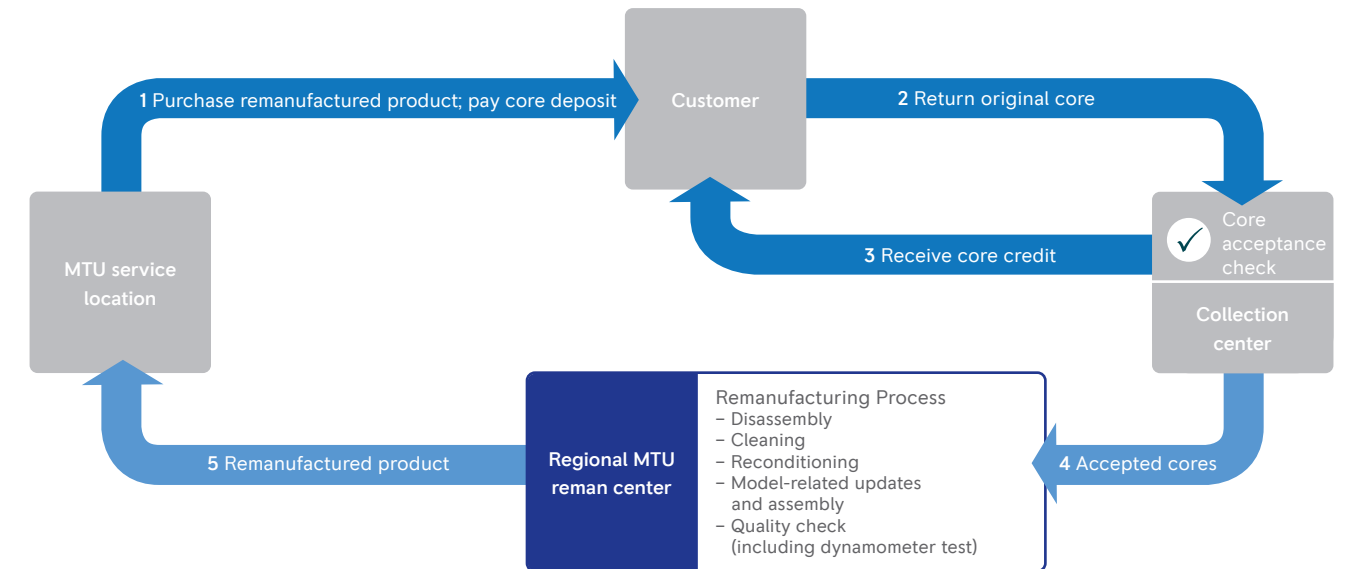
All products are remanufactured to strict MTU standards by MTU-certified technicians at regional MTU reman centers. Only MTU can remanufacture MTU parts, engines or systems to original MTU factory specifications. Whether it's fuel injectors, crankshafts, cylinder heads or complete systems, every product undergoes a detailed remanufacturing process developed by R&D engineers.

In the factory remanufacturing process, used products and assemblies are fully disassembled, cleaned and inspected, then reassembled with all genuine, new wear parts from MTU. Replacement parts are issued for components that are worn, damaged or outdated. Design and model-related updates are incorporated, making factory remanufactured products comparable to new products. All remanufactured engines and systems are rigorously dynamometer tested according to the same procedures used for new products in MTU assembly plants.

Protect the environment.

Since remanufacturing is an efficient use of resources and energy, factory remanufactured products benefit the environment as well. By remanufacturing end-of-life products rather than discarding them, the need for raw materials and energy to produce new parts is minimized, significantly reducing waste and CO₂ emissions. Often, the process can be repeated multiple times, greatly extending the lifespan of these nonrenewable products.

Exchange process



- 1 Used products and assemblies are fully disassembled, cleaned and inspected during the remanufacturing process.**
- 2 After the remanufacturing process, products are fully restored to updated specifications according to certified, standard processes from the original manufacturer.**





Service Network

LOCAL SUPPORT. WORLDWIDE.

05

The most important part of your power system isn't a part at all—it's your local service team. With more than 1,200 service locations worldwide—backed by regional Parts Logistics Centers in Europe, Asia and America—you can count on responsive support by expert technicians, wherever work takes you. To find your local service partner, visit www.mtu-solutions.com.

Always on call, 24/7

Whether it's connecting you with a local service partner or assigning an urgent problem to a dedicated team of MTU experts, we're ready to assist you—wherever you are, whatever you need.

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