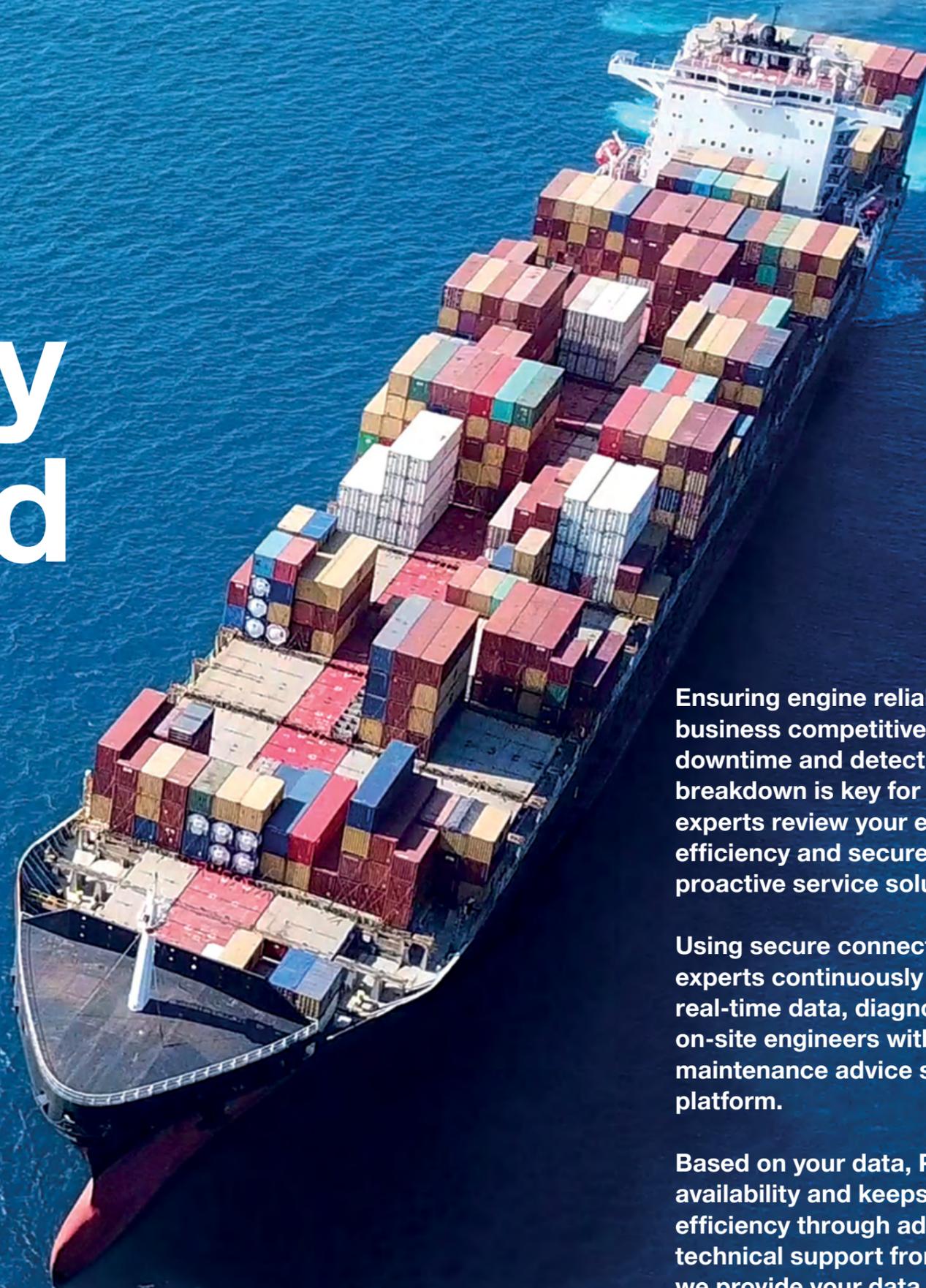


PrimeServ Assist



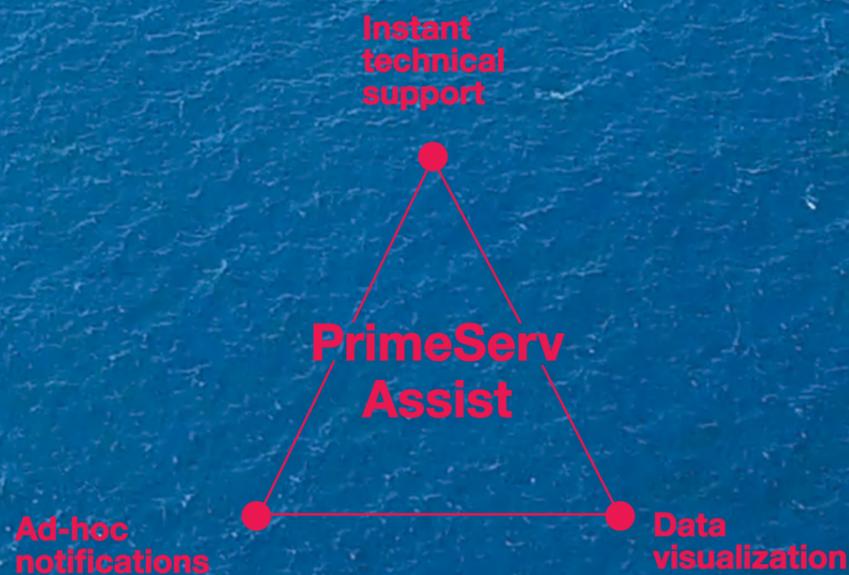
Secured availability – optimized efficiency



Ensuring engine reliability is essential for today's business competitiveness. Preventing un-planned downtime and detecting anomalies before a breakdown is key for your operation. Have MAN experts review your engine data to optimize engine efficiency and secure your availability with our proactive service solution, PrimeServ Assist.

Using secure connectivity technology, our MAN experts continuously monitor and analyze near real-time data, diagnosing anomalies and notifying on-site engineers with valuable operational and maintenance advice supported by the MAN CEON platform.

Based on your data, PrimeServ Assist secures engine availability and keeps your engine operating at peak efficiency through ad-hoc notifications and instant technical support from our MAN experts. In addition, we provide your data visualized in graphic data charts to review your engine's performance and data history.



Ad-hoc notifications

Being informed about anomalies before your equipment breaks down or your engine efficiency decreases gives you the chance to act proactively and economically. With PrimeServ Assist, our MAN experts constantly monitor your engine data and notify you when an anomaly is detected. This allows you to react in due time to prevent damage, downtime and loss of efficiency. You receive ad-hoc notifications about the affected equipment, the type and severity of the anomaly as well as our recommendations to solve the problem.

Which equipment

To ensure that your engine operates as efficient as possible, we constantly monitor and evaluate all parameters affecting your engine performance. The ad-hoc notifications cover your entire engine and auxiliary systems.

Type of anomaly

Not only knowing where an anomaly is, but also what type it is, is important in order to take quick action. Whether an oil feed rate is low, a pressure is not sufficient, or user settings are not optimal, PrimeServ Assist will notify you.

Severity of anomaly

The severity of an anomaly determines how quickly you need to act in order to avoid operating inefficiently or damaging the engine. You will receive detailed information about the potential consequences of the detected anomaly so you can plan accordingly.

Recommendations

PrimeServ Assist's notification always state our experts' recommendations on how to approach any issue. We provide you with specific advice and solutions on how to remedy the situation.

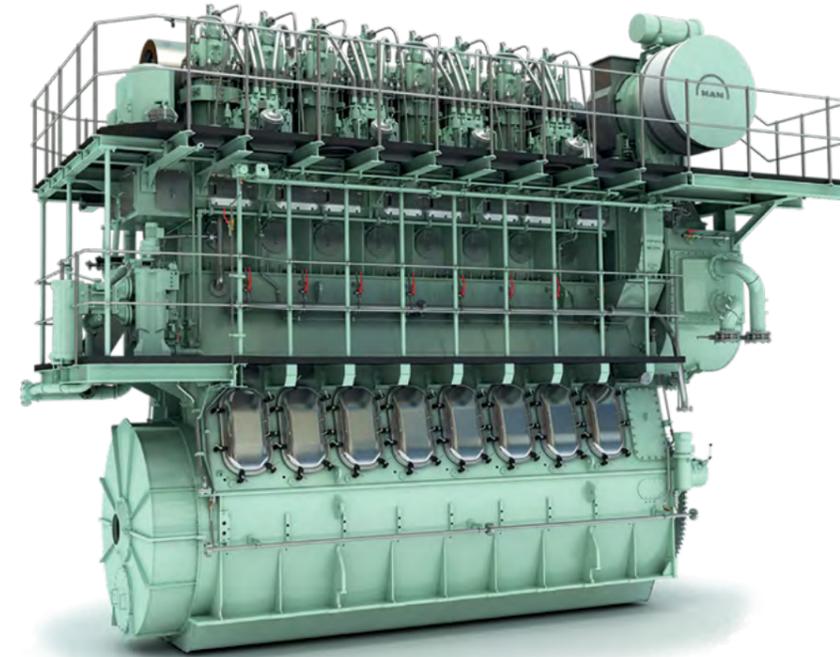
Engine balance

PrimeServ Assist monitors your engine balance by reviewing your cylinder pressures allowing MAN experts to send ad-hoc notifications when possible deviations from the optimal conditions occurs. By constantly surveying the engine balance, we help you control NOx emissions, thermal load and fuel consumption levels, effectively reducing wear on piston rings and liners.



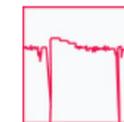
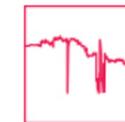
Heavy running

PrimeServ Assist monitors if your engine is running heavily by continuously evaluating power, revolutions and referencing it to the propeller load curve. This allows MAN experts to send ad-hoc notifications when possible heavy running occurs to avoid thermal overload and to recognize signs of hull or propeller fouling at an early stage. By constantly reviewing heavy running, potential fuel penalties and the overload of engine components can be prevented.



Cylinder condition

PrimeServ Assist monitors your cylinder lubrication by reviewing your lube oil feed rate for any deviations. This allows MAN experts to send ad-hoc notifications when possible deviations from the optimal conditions occur. By constantly surveying the lube oil feed, we help to ensure correct lubrication at all times and thereby reducing cylinder wear.



Engine control system user settings

PrimeServ Assist monitors your calculated engine load referencing PMI values. This allows MAN experts to send ad-hoc notifications about possible improvements to the engine control system user settings. By monitoring user settings of for example fuel quality applied (FQA) the engine can perform at its optimal at all times.

Instant technical support

With PrimeServ Assist you have instant access to expert knowledge from our Remote Operating Center, where MAN experts are monitoring your engine 24/7. With the extensive data set and the history of your engine at hand, they are better equipped than anyone else to help you on all matters from performance to emergency support. Whether your challenges require new spare parts, a retrofit or a visit from a MAN superintendent, the experts will help you solve the problem as quickly as possible.

Performance support

The best possible guidance for performance optimization and troubleshooting comes from the original engine designer. In addition to the general in-depth knowledge on MAN two-stroke engines, our experts have unique insights into your particular engine and can provide effective and valuable guidance on any performance issue or question you might have.

Emergency support

When you are faced with a serious engine issue that affects your operation, you need the best help possible – and you need it fast. PrimeServ Assist is your connection to the entire MAN organization. Our experts will be brought together to deliver the assistance and solutions you need to solve the issue at hand as fast as possible.





Data visualization

When you have signed up for PrimeServ Assist you can always count on our MAN experts to keep a watchful eye on your engine and let you know if anything is inefficient. But sometimes it will be helpful, or even necessary, for your business to be able to look into the engine performance data as well.

PrimeServ Assist gives your management and crew the opportunity to review of charts that visualize the data collected from your engine. These provide insights into engine performance, engine balance and the historic data – all essential parameters for data driven management decisions as well as ensuring a clear communication with the crew at sea.

Engine performance

Benchmark your engine's performance against shop test references to evaluate its current state.

Engine balance

Follow the engine's balance in near-real-time and observe the developments when changes are made in the engine room.

Historic data

Get the complete overview of your engine's history to ease troubleshooting when an anomaly occurs and benchmark the engine's historical performance.

MAN PrimeServ Service with passion



MAN PrimeServ is the dedicated MAN Energy Solutions service brand. Via a network of over 100 service centers worldwide, MAN PrimeServ provides 24/7 service across the globe. Our range of services includes technical support, consulting and OEM spares, as well as maintenance, repair and comprehensive individualized service plans.

365
days a year
24
hours a day



MAN PrimeServ's aim is to provide

- Prompt delivery of high-demand OEM spare parts within 24 hours
- Fast, reliable and competent customer support
- Individually tailored O&M contracts
- Ongoing training and qualification of operators and maintenance staff
- Global service, 24 hours a day, 365 days a year
- Diagnosis and troubleshooting with our high-performance Online Service



MAN Energy Solutions and legacy brands

MAN PrimeServ is our brand name for high-quality aftersales support for the entire MAN Energy Solutions product portfolio. Through refinements to our products and repair techniques, we ensure and enhance our technological leadership and technical expertise as an Original Equipment Manufacturer (OEM) for the brands united under MAN Energy Solutions.

Worldwide service

100

Service centers worldwide

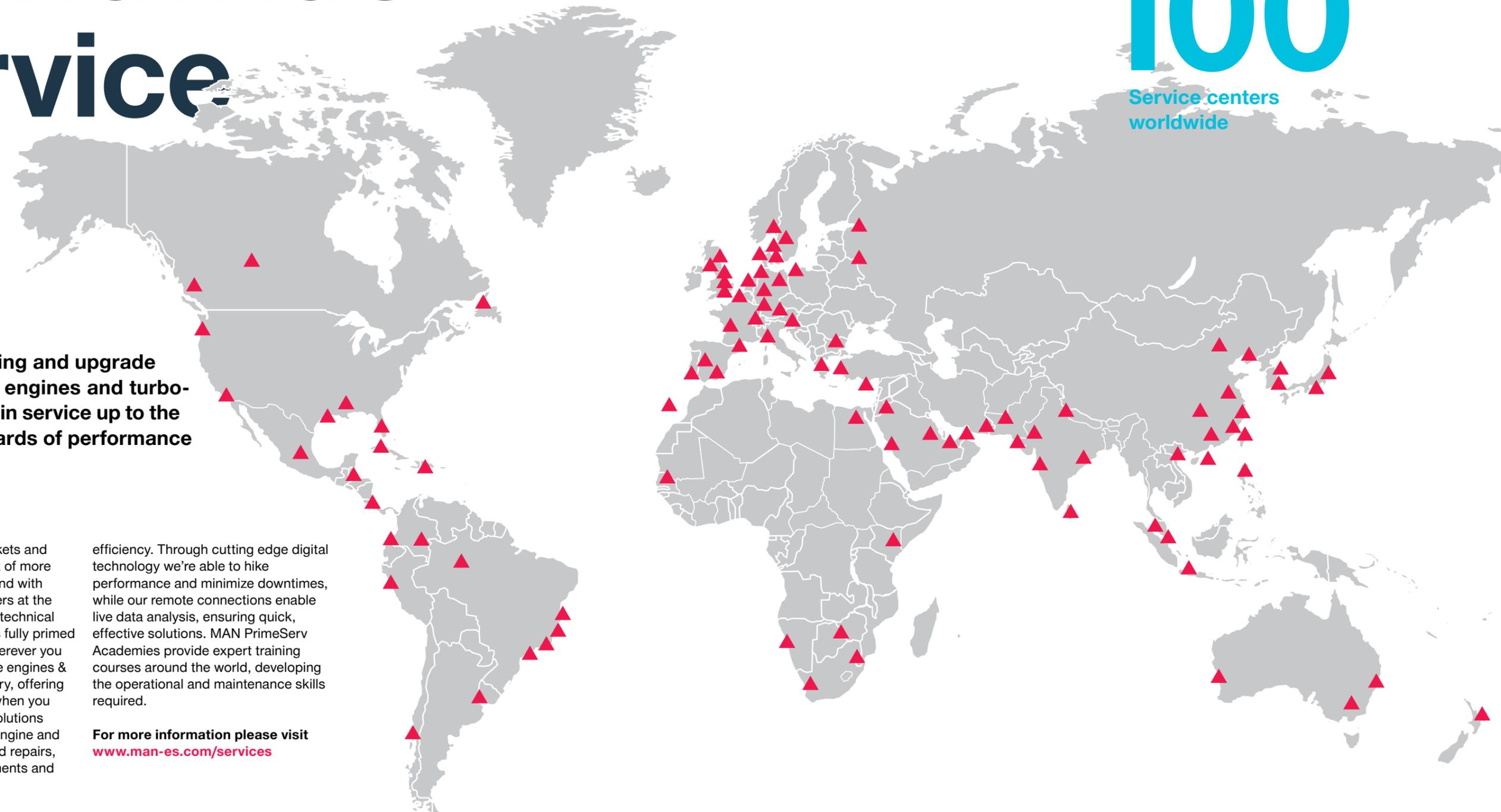
We offer retrofitting and upgrade services to bring engines and turbochargers already in service up to the very latest standards of performance and efficiency.

Represented in all key markets and major ports, with a network of more than 100 service centers, and with skilled field service managers at the ready to provide first-class technical support, MAN PrimeServ is fully primed to provide 24/7 service, wherever you are. In power plants, marine engines & systems and turbomachinery, offering reliable technical support when you need it most, our service solutions include OEM spare parts, engine and machinery maintenance and repairs, customized service agreements and individual consulting.

efficiency. Through cutting edge digital technology we're able to hike performance and minimize downtimes, while our remote connections enable live data analysis, ensuring quick, effective solutions. MAN PrimeServ Academies provide expert training courses around the world, developing the operational and maintenance skills required.

For more information please visit
www.man-es.com/services

For existing equipment our holistic retrofit and modernization solutions keep your engines or turbochargers up-to-date and at optimal levels of reliability, availability and economic



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