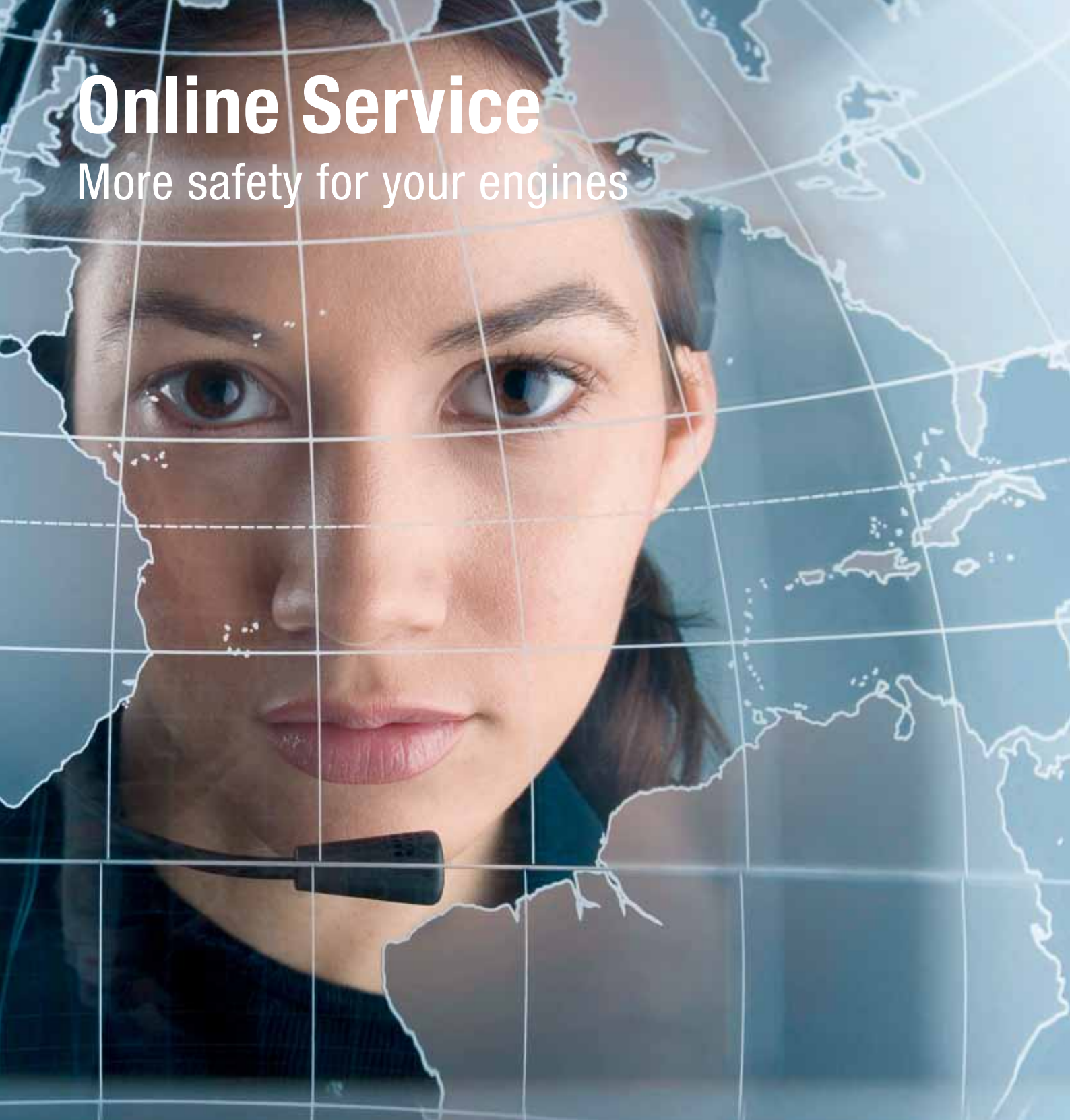


Online Service

More safety for your engines



MAN PrimeServ Online Service

In the present-day globally-networked economy, rapid transmission of information plays a decisive role, particularly in the field of transportation and power generation. Thanks to effective information transmission via the internet, MAN PrimeServ can transmit important engine and installation information throughout the world, can evaluate it and make available the know-how of the MAN PrimeServ experts in real-time.

This comprehensive “Online Service” provides near term troubleshooting support and accurate fault repair advices, particularly efficient maintenance of engines and turbochargers suggestions and thus high levels of plant reliability and availability.

MAN PrimeServ Online Service encompasses the following modules for composing your Online Service:

Remote Troubleshooting Support

Remote Operation Support

Regular Reporting

Technical Expertise



Online Service

In addition Online Service can be combined with other MAN PrimeServ service products to build up a customized service solution.

Advantages

- Faster troubleshooting and fault elimination
- Improved support for the operating personnel
- Optimised level of reliability
- Higher level of availability
- Cost reduction
- Clear and comprehensible documentation

Functions

- Optimum operating and maintenance support
- Analysis, evaluation and graphical display of operating conditions and trends by the manufacturer
- Guided fault analysis
- Secure communication channel
- Software support and maintenance
- Life-long trend and backup of operating data

Reliability Centred Maintenance (RCM)



Online support by our OEM specialists

Online Service is a standard in MAN PrimeServ Engine Management Concept (EMC). In EMC there is a focus on the implementation and operation of your customized RCM strategy. Targets of this strategy are to increase engine's cost effectiveness, to provide a high engine uptime and to operate a balanced risk management.

Therefore MAN PrimeServ uses Online Service beside normal communication to create a more precise picture about your engines and turbochargers, as well as early detecting upcoming trends. Afterward the deduced information is used together with MAN Diesel & Turbo engineering knowledge and PrimeServ's specialists to adapt your maintenance for achieving an optimal RCM.

Advantages

- Cost-saving by reduction of unplanned maintenance
- Improved engines cost effectiveness by minimizing of down time with use of condition and process based action planning and execution
- Reliability gain by preventing unessential maintenance beside your schedule
- Optimal planning of engine running costs by use of advance risk management

Performance characteristics

- Support for reliability centred maintenance schedule and spare part procurement
- Detailed specialist recommendation concerning the maintenance of your engine
- Operating data analysis and evaluation
- Consumables and ancillary consumables analysis and evaluation
- Regular technical reports for detailed overview

Remote Troubleshooting Support



Online Performance Analysis

In the event of a fault, the Online-Service-experts gets engaged in the plant on request of the customer and has the facility for transmitting all fault-relevant data to our specialists in MAN PrimeServ. This method not only saves your time, but you also may save the costs of an on-site diagnosis.

In many cases, the problem can be solved directly on-site by your operating personnel with the help of Online Service Troubleshooting facility – supported online by Online Service Remote Access, web video conferences, chat and telephone. This allows the PrimeServ specialists all over the world to see exactly the same monitoring data as the plant operator sees on his local CoCoS EDS system.

This means that you save in three ways:

- There are no costs for the deployment of additional experts
- Required spare parts can be determined in a faster way and sent off more quickly
- Down time may be reduced considerably

In this way a previous execution of Remote Troubleshooting Support in combination with a PrimeServ visit, this only when required, ensures an availability increase of the engine plant und a minimization of travel cost expenses.

Advantages

- Increased availability of plants as a result of the most rapid reaction times
- Down time is reduced considerably by promptly support through PrimeServ experts
- Travel cost savings as a result of remote support by PrimeServ experts
- Remaining PrimeServ related maintenance tasks are directly done locally by an adequate PrimeServ specialist

Functions

- Problem solution developed together with crew within the Remote Troubleshooting Support
- Remote data evaluation
- Secured data connection
- On-demand option for costly Internet connections

Remote Operation Support, Reporting and Technical Expertises



Perfectly made-to-measure maintenance intervals, depending upon the application

More safety as a result of evaluating your engine data

Using Remote Operation Support the engine and turbocharger data is transmitted to MAN PrimeServ at regular intervals and tested – exactly matched to your requirements.

The data is evaluated by PrimeServ specialists. From these evaluations we produce regular overviews for you concerning the operating condition of your engine plant. This provides you with a long-term overview of your engine plant and an optimised view and representation of operating values, when necessary, combined with direct operation recommendation for a reliability, availability and cost centred operation.

In the event of a deviant engine operation, or upon request, you will receive a detailed event focussed evaluation.

Finally evaluation results together with technical inspections can be provided as technical expertises about engine condition and operation.

Advantages

- More plant security against possible faults as a result of the best possible monitoring and early warning service
- Premium access to PrimeServ specialists' knowledge for your operation support
- High level in reliability, availability and cost control

Performance characteristics

- Support for continuous optimisation of operating conditions
- Comprehensive documentation of operation condition
- Customised operation recommendation on condition
- Deep and substantial technical expertises

Online Service at Marine and Stationary Plant

Both on the ocean waves and on shore – in most cases there is already an evaluation of the engine and turbocharger operating data on the plant. Since 2000 all MAN Diesel & Turbo engines are delivered with integrated data interface, which can be upgraded to a complete local system for engine monitoring, called CoCoS EDS. If online access is facilitated via this data interface, all the engine and turbocharger operating data and additional information is made available to our PrimeServ specialist for analysis.

A “Remote Access Cabinet” – a secure communication hardware – must be installed to enable the transmission of the operating data to MAN PrimeServ. This transmits the operating data either automatically at prescribed intervals, manual initiated by MAN PrimeServ or by release from plant operator. This secure connection ensures maximum data security and excludes access by third parties completely.

On modern plants, whether marine or power station, it is generally possible to use existing telecommunication installations and to thus reduce the investment costs.

MAN PrimeServ would be pleased to check the individual conditions and requirements of your plant and to advise you concerning technical implementation.



The performance components of Online Service

Remote Access to Plant

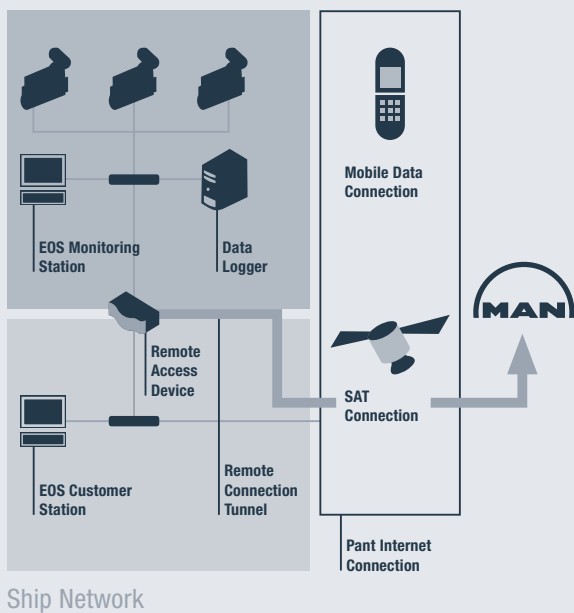
Marine

Most ships these days are equipped with a satellite or mobile communication. In combination with a “Remote Access Cabinet” and a modem, encrypted data is transmitted to the relevant receiver station via the telecommunication system and then sent to the MAN PrimeServ Online Service.

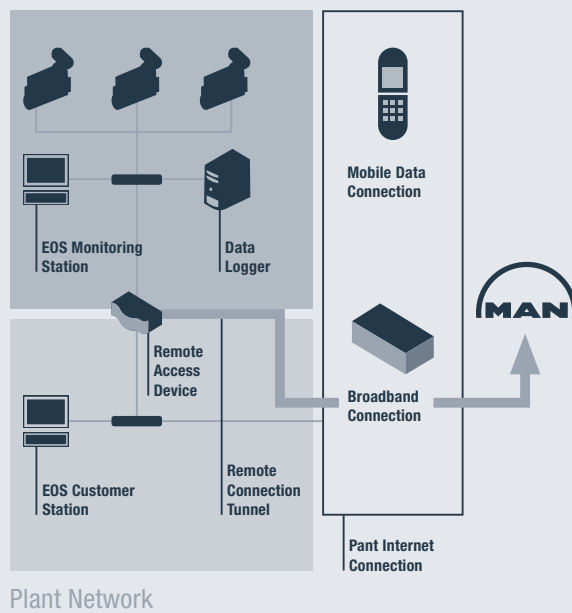
Power plant

Most plants have a modern internet broadband connection which can be used for Online Service. If this is not available it is also possible to create a fitting connection via a normal telephone or mobile connection.

Engine Monitoring Network



Engine Monitoring Network



Functional schematic of Online Service for marine engines

Functional schematic of Online Service for power station engines

There is also an economically most interesting option by 3G/UMTS connection available. This allows the data transfer in ports or close proximity to shore.

All data provided in this document is non-binding. This data serves informational purposes only and is especially not guaranteed in any way. Depending on the subsequent specific individual projects, the relevant data may be subject to changes and will be assessed and determined individually for each project. This will depend on the particular characteristics of each individual project, especially specific site and operational conditions - Copyright ©MAN Diesel & Turbo - D2366344EN-NS Printed in Germany, MC-08102

MAN Diesel & Turbo
86224 Augsburg, Germany
Phone +49 821 322-0
Fax +49 821 322-3382
primeserv-os@mandieselturbo.com
www.mandieselturbo.com