

Online Service

More safety for your engines



MAN PrimeServ Online Service

Higher safety through predictive analysis

There are a variety of ways to optimize total cost of ownership. One way is by monitoring your machinery automatically and continuously. Hence, an downtime causing can be predicted and rectified in time or an non-efficient operation mode can be adjusted early. Proven Online Service products can help to increase profit while maintaining the high level of reliability and availability of your investment.

MAN PrimeServ Online Service transmits key engine data from any place in the world via secure data connections. MAN PrimeServ experts analyse the data and provide valuable recommendations for the maintenance or repairs of the engine. The experts also provide trouble shooting support by accessing real-time engine data simultaneously to technical personnel in the engine control room.

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

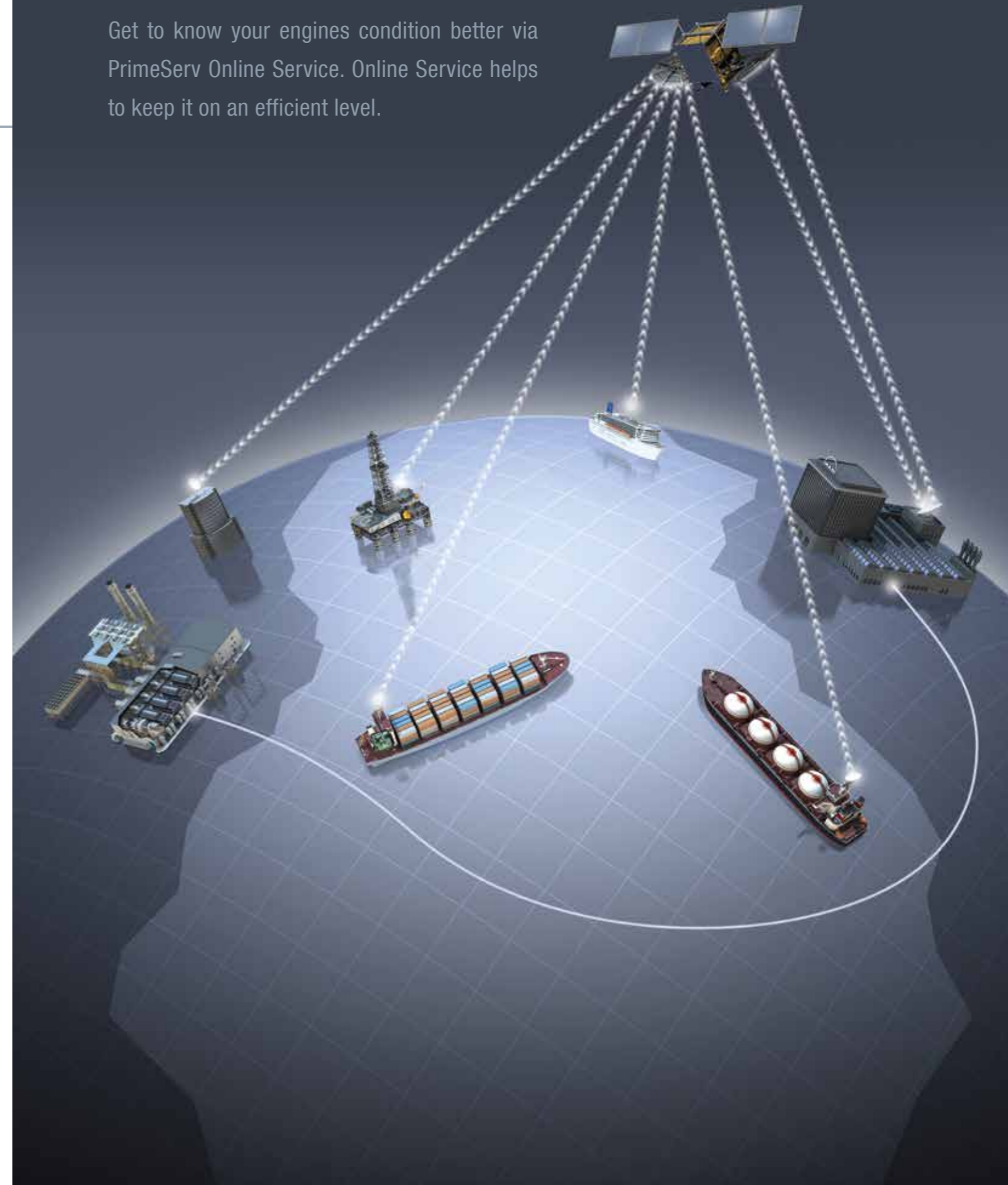
- Condition reporting
- Remote support
- Quick information
- Performance curves
- Trend analysis



Functions of Online Service

- Secured communication channel
- Graphical display of operating conditions and trends
- Lifetime trend storage and backup of operating data
- Guided fault analysis

Get to know your engines condition better via PrimeServ Online Service. Online Service helps to keep it on an efficient level.



Basic Configuration

High level standard

Optional Configuration

Optimize your engines' performance



Quick information

In the event of a deviant parameter in engine operation or monitored irregularities you will receive a telephone call or a quick report which will display and describe the problem.

Condition reporting

Regular status reports about the most important operating conditions. Long-term overview of your engines and an optimized view of operating values combined with direct operation recommendations.

Remote support

In the event of a fault, the Online Service expert engages at customer's request and has the ability to view the data relevant to the fault as stored in the data locker at site. In many cases, the problem can be solved directly in cooperation with operation personnel on-site.

Advantages

- Improved support for the operating personnel increased engine knowledge
- Faster troubleshooting and fault elimination
- Cost reduction

Performance curves

Comparison of current condition with optimal condition (engine fingerprint). In combination with additional on-site measurements (e.g. combustion pressure) you will receive advice on how to restore your engine to optimum status.

Trend analysis

Evaluation of long-term behavior of operating values. Prediction of upcoming irregularities (e.g. lube oil degradation) before fault occurs.

Experts' Advice

Solving problems before they arise

What can MAN PrimeServ Online Service customers expect?

Based on the transferred engine data, MAN PrimeServ experts analyse these data. Once an irregularity is found, the experts are searching for the cause and how to rectify it.

The result will be put into an Online Service report in a manner, so that the personnel on site are able to follow the expert advice.

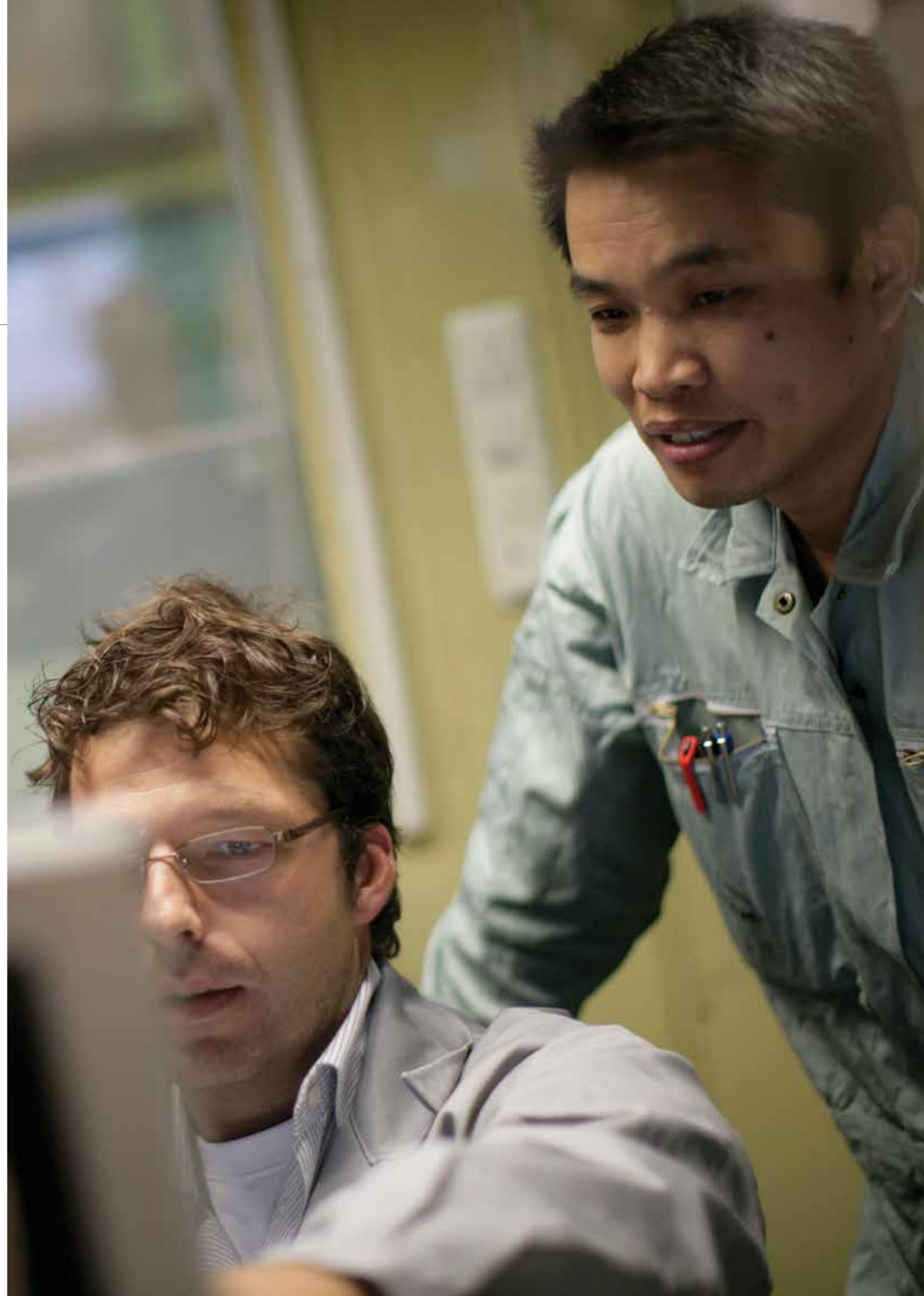
When a deviation is detected, needing an immediate action, the MAN PrimeServ expert creates a brief action report and sends this to the customer. In parallel the expert calls the nominated contact persons by phone.

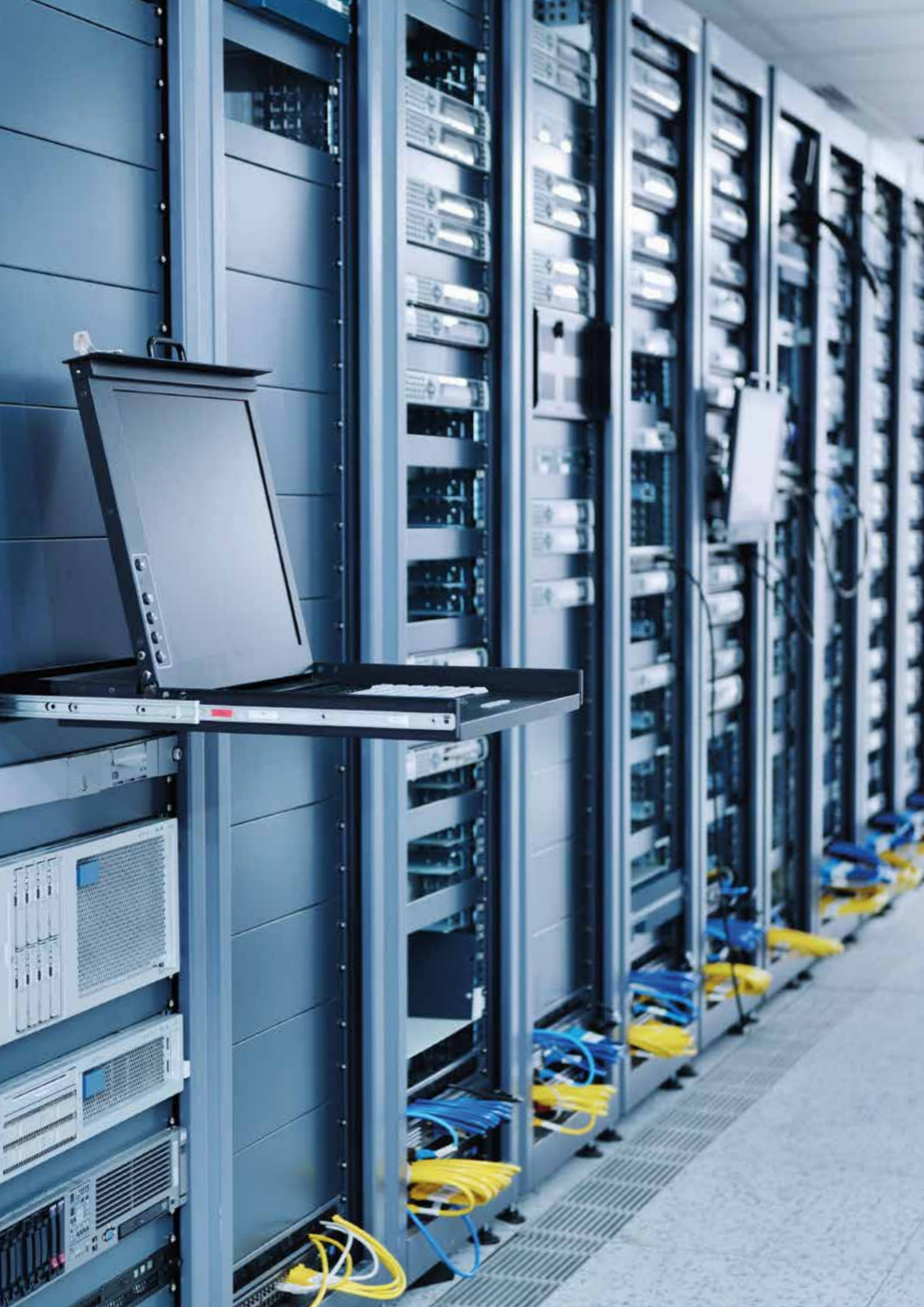
In case, that customers have more than one engine on site, there is an opportunity for a site report, where the condition of the engines can be seen at a glance and the comparison is easier.

If remote support is needed and directly compared MAN PrimeServ expert can access the data and make evaluations and recommendations based on live data.

Status overview				
	Engine 1	Engine 2	Engine 3	
Engine status				
Eng. speed / TC speed / Gen. power	●	●	●	
Exhaust gas temperatures cyl. out	●	●	●	
Exhaust gas temperatures turbine	●	●	●	
Main bearing temperatures	●	●	●	
Splash oil temperatures	●	●	●	
Cooling water system	●	●	●	
Lube oil system	●	●	●	
Charge air system	●	●	●	
Data availability	100 %	100 %	100 %	

Engine 1	
● Eng. speed / TC speed / Gen. power	
⚡ Fluctuating turbocharger speed.	
? It seems sensor (TC speed) provides wrong values.	
IT Please check sensor and/or cable.	
● Exhaust gas temperatures turbine	
⚡ Exhaust gas temperature to in is quit high.	
? Possible reason is a high charge air temperature or a dirty charge air cooler.	
IT We recommend: Cleaning charge air cooler.	
● Main bearing temperatures	
⚡ It seems sensor (main bearing temp. T) provides wrong values.	
? Problem with sensor or cable.	
IT Please check sensor and/or cable.	
● Charge air system	
⚡ Charge air temperature exceeded alarm limit.	
? Possible reason is a high ambient temperature or a dirty charge air cooler.	
IT We recommend: Cleaning charge air cooler.	





Remote Access Solutions

The performance components of Online Service

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



Since 2000, MAN Diesel & Turbo engines have been delivered with integrated data interfaces, which can be upgraded to complete local systems for engine monitoring, called CoCoS EDS. If online access is facilitated via this data interface, all engine and turbo-charger operating data can be made available to our PrimeServ specialist for analysis.

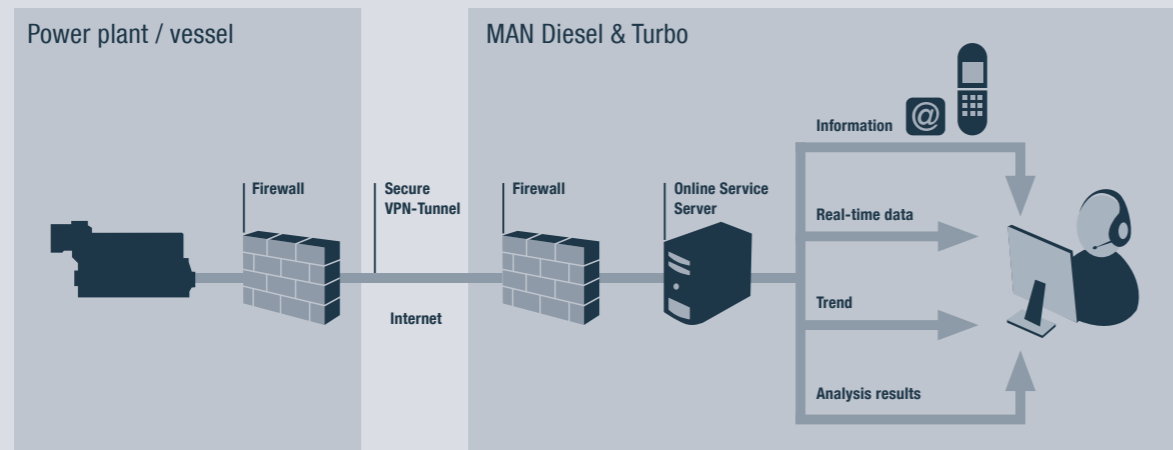
A "Remote Access Cabinet" – a secure communication hardware – must be installed to enable the transmission of the operating data to MAN PrimeServ. This

transmits the operating data either automatically at prescribed intervals, manually as initiated by MAN PrimeServ or by release from the plant operator. This secure connection ensures maximum data security and completely excludes access by third parties. Principle: data connection can only be initiated by the locally installed transmission box.

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

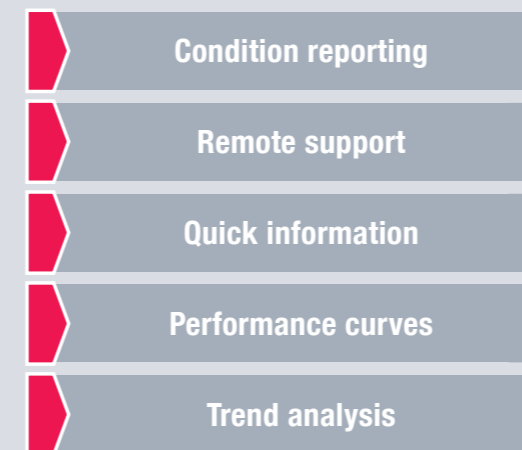
Data Transfer

Functional schematic



PrimeServ Online Service

Benefits at a glance



Marine engines

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 MAN PrimeServ Online Service.

There is also an economically interesting option by 3G/UMTS connection available, i.e. telephone connection. This allows the data transfer to occur in ports or upon close proximity to shore.

Power plants

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.

Choosing the Online Service solution is a:

- Easier way to keep machinery efficient
- Faster way to get expert advice
- Smarter way to minimize downtime

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