# Condition Monitoring Solutions

• • • for the maritime industry









## ··· Condition Based M

### New Opportunities

### for the Maritime Industry

New standards for condition based maintenance of rotating machinery, involving Condition Monitoring, have been issued by classification societies. This opens a perfect opportunity for operators to move towards a proactive approach to maintenance and literally have it built into their vessels.

Condition Monitoring for full benefits

Maintenance onboard has traditionally been based on equipment running time. Class requirements may stipulate that machinery be opened according to hours of operation, regardless of actual machine condition. This may cause unnecessary repair time, larger than necessary stock of spare parts and higher overall maintenance costs.

Introducing condition based maintenance will result in:

- Reduced opening-up of equipment
- Flexible maintenance intervals
- Fewer damages caused by unnecessary maintenance
- Improved spare part control
- Overall lower maintenance costs
- Documented machinery condition

### A Total Solution

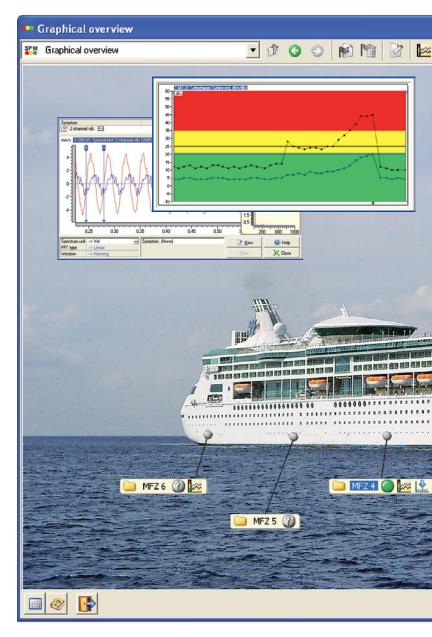
### for any vessel

Condition monitoring equipment gives an early warning of developing machine faults. Machine condition information is accurate and easily accessible.

Online systems continuously monitors critical machinery, while portable instruments are used for measurements on auxiliary machinery. A complete range of accessories enables a condition monitoring solution to be tailored to your specific requirements.

Condition Monitoring may be defined as the provision of realtime information about the performance and maintenance needs of a particular machine. Assessment of machinery reliability is made possible through continuous or periodic measurements taken during operation and then analysed.

Condition Based Maintenance combined with new technology enables more timely maintenance and repairs and sound energy management. Critical information is there when you need it, supporting strategic and operational decision-making.



## aintenance at Sea ···

The condition monitoring system puts you in full control of the maintenance work on machinery across the vessel. Up-to-date information on the health of your ships is visible to the appropriate maintenance personnel via cell phones, online systems or e-mail.

Trends of changing condition are simple to follow. Alarms are triggered well in time for planned activities. Last minute surprises and unplanned maintenance activities are minimised. Key performance indicators are trended to ensure the implementation works as planned.

- Bearing condition in rotating equipment is monitored using shock pulse measurement.
- Vibration monitoring is used on applications where other problems such as alignment, impeller problems, gear problems, balancing problems etc. occur.







### **Condition Monitoring Products**

Our current product line is the result of nearly 40 years of experience working with the specific requirements of the maritime industry.



### Portable instruments and online systems

Instrumentation is available in a wide range of options to fit the technical, environmental and economical requirements of a given application. SPM online monitors, data loggers and other handheld instruments measure shock pulses, RMS vibration velocity, vibration time records with FFT

spectrum, temperature and speed, and they are price-graded according to performance.

Online equipment includes high performance vibration analysis units as well as simple one or two channel alarm units.



#### Comprehensive software

Condmaster®Nova handles data from all our handheld instruments, data loggers, and online systems. Customer defined measurements can be manually input and the software also accepts online analog signals as voltage or current. Condmaster contains sophisticated vibration analysis models as well as an extensive library of bearing and lubrication data, ISO standard limits and more. The software is modular and can be customised to meet your requirements.

#### Accessories

An extensive range of accessories, including adapters, transducers and cabling, completes the SPM product line-up. Ex versions are also available.

### SPM Worldwide

SPM has global representation with dedicated professionals located on every continent. We provide products, installation, technical service, training, support and auditing – wherever you are.



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