

## Machinery Monitoring System/ Maintenance Support System

# ClassNK CMAXS

### 4 benefits of CMAXS

#### 1. Monitoring of Machinery Condition

- Early detection of machine abnormality and reduction of accidents through a next-gen monitoring System
- Support daily maintenance work onboard

#### 2. Integration of Monitoring Systems

- Monitor M/E, G/E and auxiliary machines all at once (Initial installation costs can be reduced)

#### 3. Information Sharing on Cloud Server

- Unitarily manage machinery condition of your fleet
- Share monitoring information with vessels/shipping companies/manufacturers

#### 4. Comprehensive Support

- CMAXS alliance partners\* provide technical support service to clients

● ClassNK CMAXS is a general term for comprehensive software developed by ClassNK in association with various M/E, G/E and auxiliary manufacturers.

● CMAXS makes "BIG DATA" gathered from vessels more valuable by combining "IoT", "Machine Learning" and a "Diagnostic System".

● ClassNK won the Lloyd's List Intelligence Big Data Award for its condition based monitoring suite ClassNK CMAXS at the 19th Lloyd's List Asia Awards in Singapore.

\*CMAXS provides its service in cooperation with M/E, G/E and auxiliary manufacturers  
Please refer the reverse side for CMAXS alliance partners



# Machinery Monitoring System / Maintenance Support System

## < Procedure of Condition Monitoring / Diagnostic >



**Measurement**

"Data Collection" from sensors

**Anomaly Detection**

"Condition Monitoring/Diagnostic" catches slight condition discrepancies

**Troubleshooting**

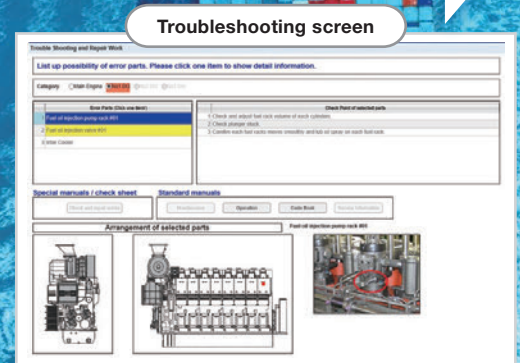
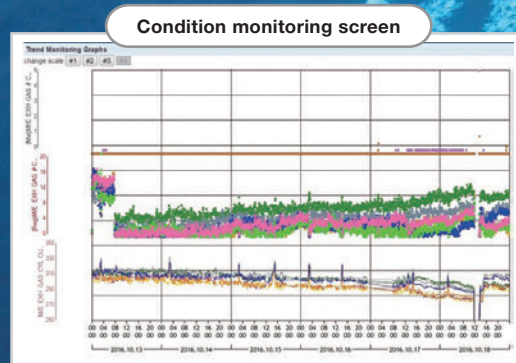
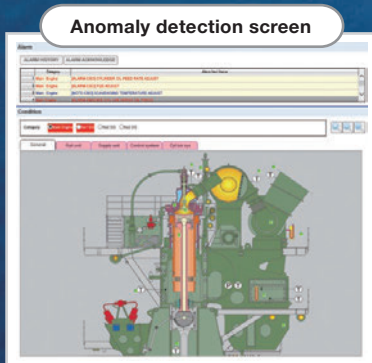
Identifies possible cause and repair methods

**Appropriate Maintenance**

Prevents problems through appropriate "Preventive Maintenance"

User's Value

Larger



## < Benefits >

- Diagnostic method combining manufacturer know-how and machine-learning algorithm
- Early detection of machine abnormality and reduction of accidents by condition monitoring/diagnostics
- Appropriate automatic troubleshooting system and identification of possible cause and repair work
- Optimum preventive maintenance based on actual conditions
- Monitor M/E, G/E and auxiliary machines all at once through corporate operation with alliance partners
- Information sharing between ship and office through a cloud server
- Appropriate remote support from alliance partners to ships in distress
- Framework for service with continually updated diagnostic parameters, content and functions

## Others Systems

### Planned Maintenance System

- Makes maintenance scheduling and reporting simple
- Information sharing between ship and office
- Supports applying element 4 of TMSA

### Spare Parts Inventory Control System

- Shortage of spare parts can be immediately identified
- Ship spare parts inventory can be precisely maintained
- Ship managers can easily request and compare quotes from different suppliers

### Abstract Log Control System

- Tool for managing the deck and engine's abstract log data
- Graph of power curve, FO consumption etc. can be plotted using past data
- Supports applying IMO-DCS and EU-MRV

### Alliance Partners



For more information about this service, please contact us at:

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