

Condition Monitoring



Service and hardware supplier for condition monitoring to the maritime sector

A collaborating partner

IKM Instrutek is a collaborating partner that focuses on quality, product range and expertise. IKM Instrutek supplies products and services to the shipping, offshore, industry and the public sector.

Our expertise ranges from process, test- and measuring instruments, maritime navigation, communication and condition monitoring.

The company was established in 1985. Its head office is in Larvik, with branch offices in Stavanger, Bergen and Ålesund.

The company has around 46 employees and a budgeted turnover of NOK 190 million. The company is part of the IKM group with around 2,450 employees and an budgeted turnover of approx. NOK 4,3 billion

A part of the IKM Group

IKM Instrutek is part of the IKM Group - a multidiscipline sub supplier focusing primarily on the oil and gas industry. The IKM Group conducts business within the following five areas: Electrical/Instrument/Process, Subsea/Completion/Commissioning, Engineering/Operations, Fabrication/Inspection and Rig/Downhole Services.

Focus on Growth is always the goal, and IKM's ambition is that even the most demanding customer shall choose IKM as their preferred business partner. All IKM companies are ISO-certified, and through internal revisions, audits, and continuous monitoring. IKM Corporate Group ensures that it meets and exceeds the needs of its customers and employees with respect to quality, health, safety and the environment.

Condition monitoring for maritime applications

IKM Instrutek is one of the few service and hardware suppliers for condition monitoring to the maritime sector that holds certifications from DNV GL, ABS and Lloyd as "approved service supplier for condition monitoring onboard ships and mobile floating units".

We deliver turn-key projects and service agreements to ship owners, management companies, drilling rigs, FPSO's and OEM's all around the world.

IKM Instrutek is ACOEM ONEPROD's partner for the maritime sector world wide. Together with ACEOM ONEPROD's predictive maintenance solutions, we offer numerous advantages:

- Minimize downtime in port through early detection of faults, making it possible to pinpoint the components to be repaired.
- Reduce costs by planning the maintenance at the most suitable time with regards to operation, minimizing spare parts and repairing only what is broken.
- Proactive maintenance and root cause analysis.

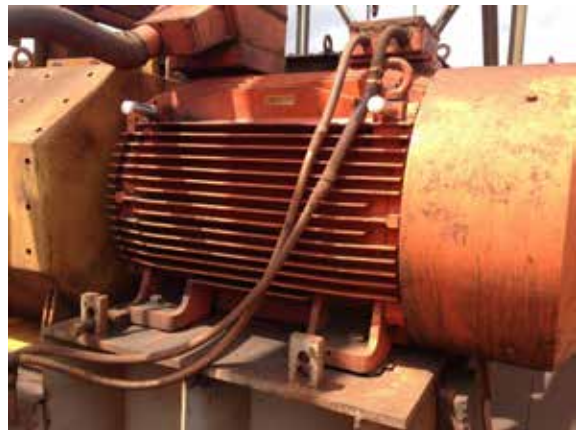
IKM Instrutek and ACOEM ONEPROD offer a comprehensive range of certified products and services, ideally suited for the deployment of condition-based maintenance in the maritime industry:

- Qualified maintenance teams with over 15 years of experience in the sector.
- Worldwide scope, with ONEPROD's network of experts in over 65 countries (including France, Norway, Brazil, Malaysia, Australia, South Korea, Greece, Canada, South Africa, Spain, China and Russia).
- High-performance remote monitoring solutions, even in suboptimal communication conditions.
- Technical solutions for targeted monitoring of all critical machinery (propulsion systems, thrusters, generators, cranes, etc.).
- Customized solutions to each individual customer's needs and requirements.

IKM Instrutek deliver field services, analysis, hardware, engineering, implementation and preparation of CM classification for ships and mobile offshore units.

EAGLE Wireless Online monitoring system

The EAGLE Wireless online vibration monitoring system is perfect for monitoring of generators, HPU motors, pumps, intervention towers, drilling machinery, cranes etc.



Key features:

- Minimal installation and commissioning cost
- No need for cables
- Powerful
- Monitoring of operating condition (load, speed etc.)
- Easy and clear overview of alarms, trends and measurements result with NEST SUPERVISION and XPR software
- Up to five years of battery lifetime
- Easy to install in machine engine room or other environments
- Gateway can also measure other parameters from other sensors (oil particles, torque etc.)
- Embedded temperature sensors
- ATEX Zone 0

MVX Online monitoring system

The MVX Online monitoring system is one of the most powerful condition monitoring systems on the market.

The system can measure all channels simultaneously and continuously. This system is perfect for thrusters and all critical machinery onboard a vessel.



Key features:

- Powerful
- Measures all channels simultaneously and continuously
- Monitoring of operating condition (load, speed, pitch etc.)
- Easy and clear overview of alarms, trends and measurements result with NEST SUPERVISION and XPR software
- Can measure and communicate with other sensors such as oil particles, torque, temperature and other
- Expandable
- ATEX Zone 2



FALCON handheld data collector

The Falcon vibration data collector is the most innovative and easy to use data collector on the market.

The data collector is especially developed for non-expert users, but at the same time it has plenty to offer the expert user.

The FALCON Essential is a perfect instrument to implement on board a vessel.



Key features:

- Easy to use
- Choose from wireless and wired sensors (three-axis)
- Falcon Essential contains only the functions and specifications needed onboard a vessel (according to class requirements)
- FALCON models can be upgraded with more functions and software (Essential, SMART and EXPERT)
- Embedded camera, stroboscope, pyrometer, QR code reader, audio comments recorder and more
- Easy and clear overview of alarms, trends and measurements result with NEST SUPERVISION and XPR software
- Robust design, rubber grip for better handling, and anti-shock resistance
- Large color touch screen, even possible to operate with gloves
- USB, WiFi, Ethernet/Internet
- ATEX Zone 2



NEST Supervision and XPR

Status of machine health for your entire fleet in one view. ONEPROD introduces SUPERVISION, a new generation of web based software applications dedicated to smart condition monitoring.

Relying on 30 years of experience, SUPERVISION offers the users complete control of their surveyed groups of machines.

Very intuitive and definitely visual, SUPERVISION makes condition monitoring available to any level in responsibility and expertise. At first glance, the displayed synthetic view provides explicit information about the machines' health status with a simple internet connection from any location on the globe. With SUPERVISION, ONEPROD is revitalizing condition monitoring and offers unrivalled simplicity and efficiency for a better productivity.

Welcome onboard to the world of smart condition monitoring.



Key features:

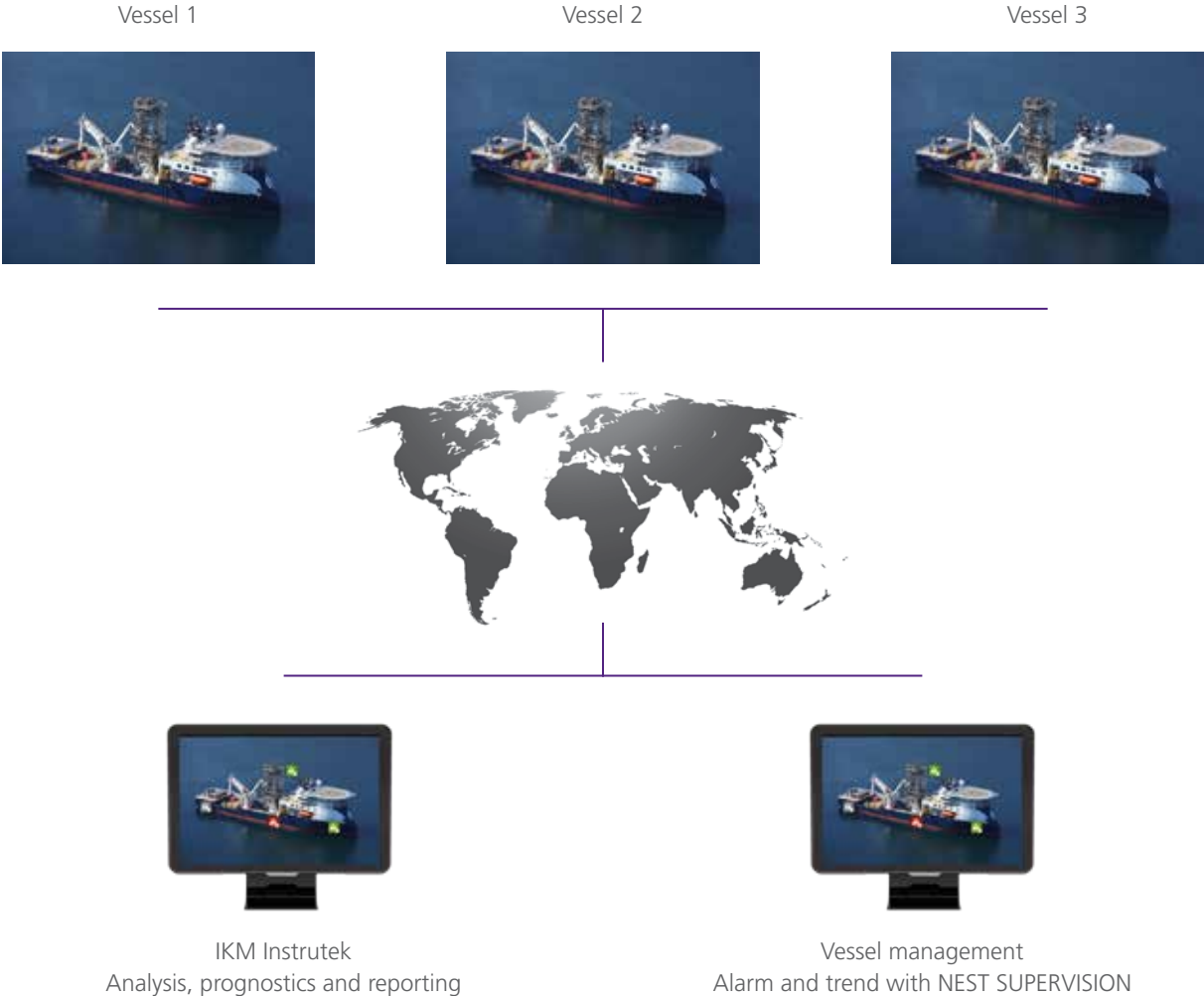
- Alarm Status
- Trends and development
- All your condition monitoring in one CMS platform
- Vibration monitoring, oil monitoring, electrical monitoring, temperature, possess parameters and more
- Report and recommendations from IKM Instrutek (last expert analysis under each machine based on analysis from XPR software)
- Web logon
- One site for trends, alarms and expert analysis reports
- Online or Offline systems
- Intuitive user interface
- Vibration analysis for expert users

Data transfer and remote databases

No negative influence on existing satellite/internet connection. IKM Instrutek and ACOEM have developed a communication tool for ships and rigs that have limited internet connectivity/bandwidth.

The size of data packages is so small that it will not cause any disturbance or problems with the network or internet connection onboard the vessel. The system can use email, FTP server or other means of data transfer.

The system can for example send an email minimum once, or several times each day, with the latest measurement data. Alarms are communicated immediately. The measurement data and latest alarms can therefore also easily be viewed by the technical staff onshore by using NEST supervision (IKM Instrutek, ship owner or technical management).



Oil Monitoring System

The Oil Monitoring System (OMS) can be delivered with a filtering system for oil maintenance. This is in addition to the standard Oil Monitoring System (OMS)

The Oil Monitoring System (OMS) includes a contamination sensor (particle counter), moisture and temperature sensor for various fluid medias. It is built up with a pump and control system that sample a fixed amount of oil continuously. This way the trend and data are comparable at all time. The system stores historical data and all data are available in the control panel as trends and historical events and alarms. Alarm levels can easily be adjusted in the menu. Trend values and alarms are also available on Modbus or can easily be collected with a USB memory stick.

All systems are delivered as "PLUG & PLAY" easy to install systems.



Oil Monitoring Sensor:

The inline contamination sensor automatically measures particulate contamination, moisture and temperature levels in various fluid medias. It is designed specifically to be mounted directly to systems, where ongoing measurement or analysis is required, and where space and costs are limited.

- 8 channel contamination measurement
- Measures the following international standard formats; ISO 4406:1999, NAS 1638, AS 4059E and ISO 11218
- Moisture and temperature sensing
- Data logging and 4000 test result memory
- Multicolour LED and remote alarm signals
- Robust die cast aluminium construction
- RS485, MODBUS, CANBUS communication protocols as standard

SDT Ultrasonic

Ultrasonic technology provides precise and cost-effective solutions in leak detection, tightness testing, predictive maintenance and automatic quality control.

SDT International is regarded as the world's leading manufacturer of measuring instruments using ultrasonic and other technologies. Its success is based on a history of providing effective solutions to specific problems. The return of investment is normally extremely short.



Key features:

- Slow speed bearings (slewing bearings on thrusters and cranes)
- Compressors and reciprocating machinery (leak detection, valves, bearings etc.)
- Diesel engines (leak detection, valves etc.)
- Hydraulic cylinders
- Hatch cover tightness testing
- Leak detection
- Electrical applications (corona detections, tracking etc.)
- Valves and piping
- Pump cavitation
- Current flow in bearings
- Bearing condition and lubrication
- And more

FIELD Services

IKM Instrutek delivers field services. We have a world-wide service network and are approved by DNV GL, ABS and Lloyds as service supplier for condition monitoring onboard ships and mobile floating units.



Field services:

- Vibration measurements and analysis of rotating machinery
- Machine diagnostics and prognostics
- Field balancing
- Trouble shooting
- Vibration measurements on structures
- Acoustic measurements
- Comfort measurements (vibration and acoustics)
- Ultrasonic measurements
- Laser alignment of rotating machinery (shaft alignment)
- Geometric laser measurements
- Thermography (electrical)
- Thermography (gas detection)
- Consulting and inspections

Condition monitoring analysis

From our offices in Bergen and Larvik, we monitor and follow up service contracts for vessels worldwide.



Services:

- Vibration analysis
- Ultrasonic analysis
- Machine diagnostics
- Machine prognostics
- Reporting and recommendation according to customer maintenance plan and strategy
- Remote trouble shooting on rotating machinery



Classification authority. Certified by the National Institute of Technology within:

- ISO 9001 The most recognised standard in the world for quality assurance.
- NS-EN ISO 14001 The most recognised standard in the world for environmental management.
- OHSAS 18001 Internationally recognised standard for the Working Environment Act and the Internal Control Regulations.



Classification authority Certified by DNV GL within condition monitoring, and radio control (GMDSS and AIS).



Classification authority. Certified within condition monitoring, radio control (GMDSS and AIS) and VDR APT.



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Classification authority. Certified within condition monitoring, radio control (GMDSS and AIS) and VDR APT 2019.

Norwegian Maritime Authority

On behalf of the Norwegian Maritime Authority we are authorised to perform radio control (GMDSS and AIS) of Norwegian ships and foreign vessels in Norwegian waters.



Safety testing and certification of electrical materials. Certification by Nemko within electro-thermography.



Maritime purchasing organisation. We are a member of Incentra and in 2014 we received the "Supplier of the year" award from Incentra's members.



Member's association that works for openness and responsibility in the global extractive industry.



Supplier register and qualification solution used by purchasing agents in the Nordic transport sector.



Achilles JQS is qualified as a supplier to the oil industry in Norway and Denmark.



Supplier register and a qualification system used by the Nordic energy sector.



A supplier register and a service for qualification used by purchasers in the Norwegian oil and gas sector.



Supervision of companies offering post and telecommunication services. Certified by the Norwegian Communications Authority as a radio installation contractor.



Recycling company for the collection, recycling and environmentally-appropriate processing of electrical and electronic waste.



Return scheme for packaging, plastic packaging, packaging cartons and drink cartons.

ITAR

The International Traffic in Arms Regulations (ITAR). We are authorised to supply ITAR regulated products.



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