

# CMS

CONDITION  
MONITORING  
SYSTEM

## Rotating Machinery Condition Monitoring System

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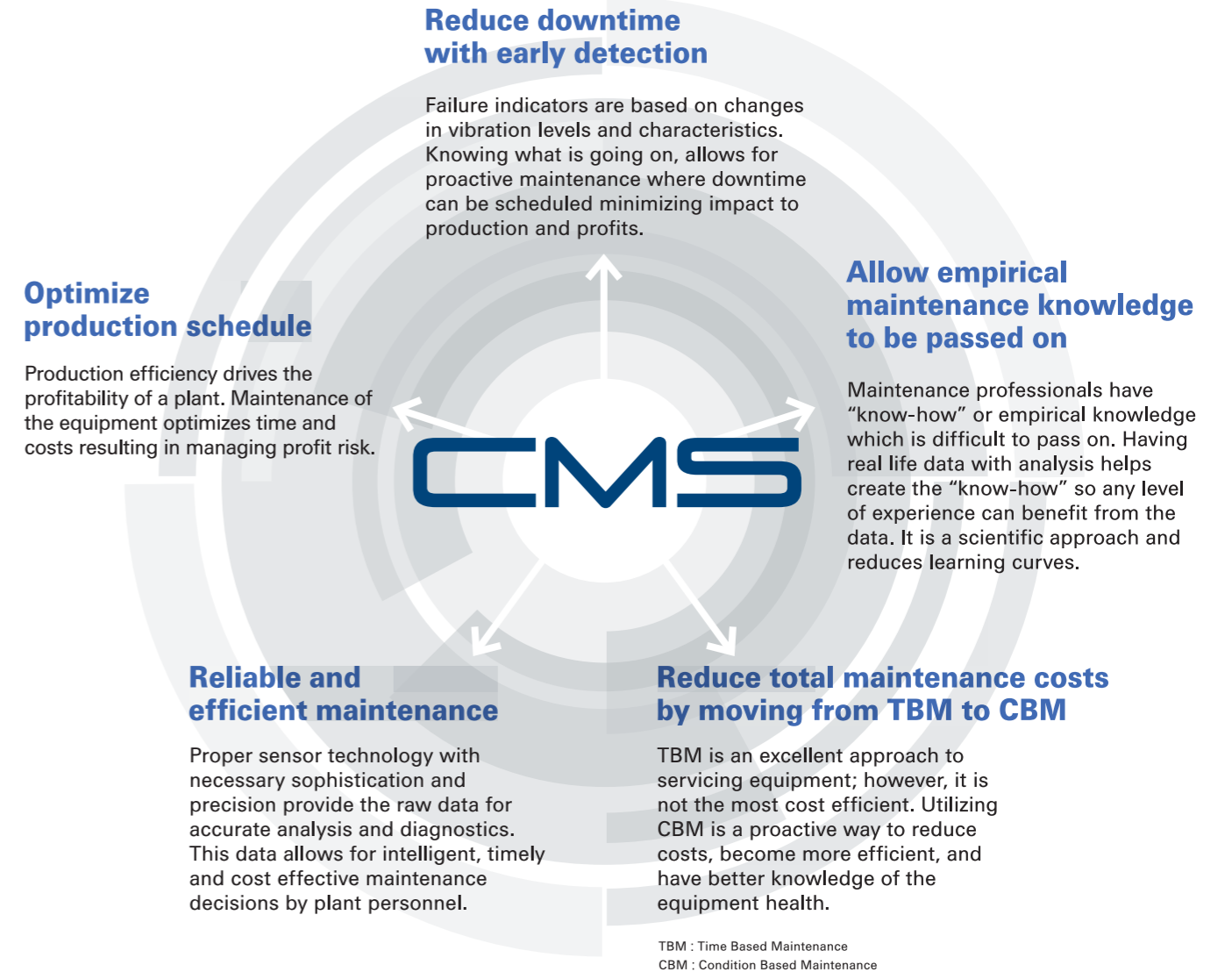
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## Maximize production efficiency, while maintaining plant safety using vibration analysis and diagnostics on your rotating equipment.

Rotating machinery is the heart of most plants. The vibration data contains valuable information. As a sensor manufacturer, SHINKAWA Electric focused on rotating equipment for many years, giving us valuable experience. The sensor information provides early detection of abnormal behavior, failures and possible causes of occurrence. Alarm levels can be established to help prevent catastrophic failure. All of this information is to maximize operations, while minimizing operating costs associated with running a plant. SHINKAWA's Condition Monitoring Systems (CMS) help customers make intelligent decisions to protect their investment in assets while controlling risks, costs, and improving efficiency without negatively impacting production or safety.

## Optimize plant operations, reliability, and productivity



### Capture, Analyze, Diagnose

Sensor data is continuously collected for analysis and diagnosis on the equipment. SHINKAWA's original software is based on our expertise in sensor technology and vibration experience. Our customers know this and rely on our high quality products.

#### Sensor Technology

SHINKAWA's expertise in sensor technology allows us to provide a range of products to fit your needs and monitor various parameters; Vibration, Rotation, Phase Mark, etc.

#### Monitoring

Our monitoring equipment receives the sensor signals, converts to vibration amplitude data, monitors and transmits waveform signals to analysis equipment.

#### Acquiring Analysis Data

Vibration waveform data are processed at high speeds, with frequency and phase analysis.

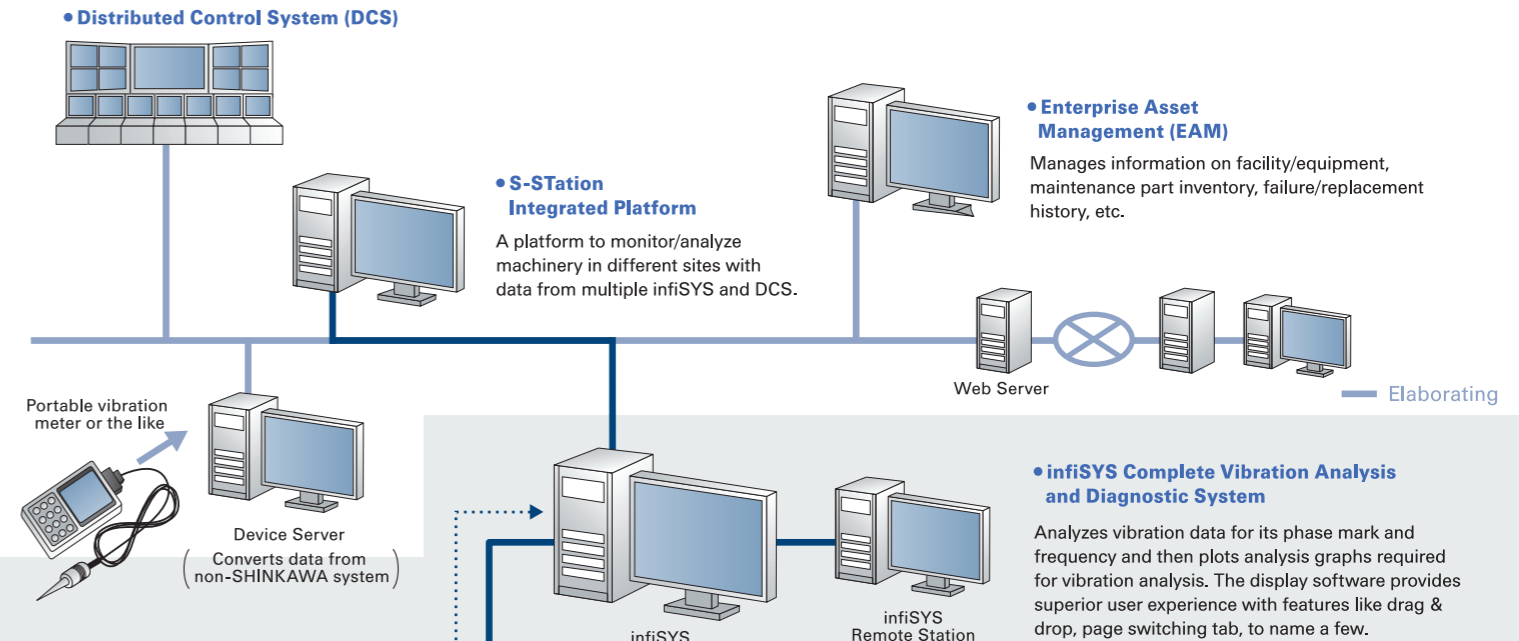
#### Saving Data / Plotting

Processed data is saved and analysis/diagnostic results are displayed in user configured graphs.

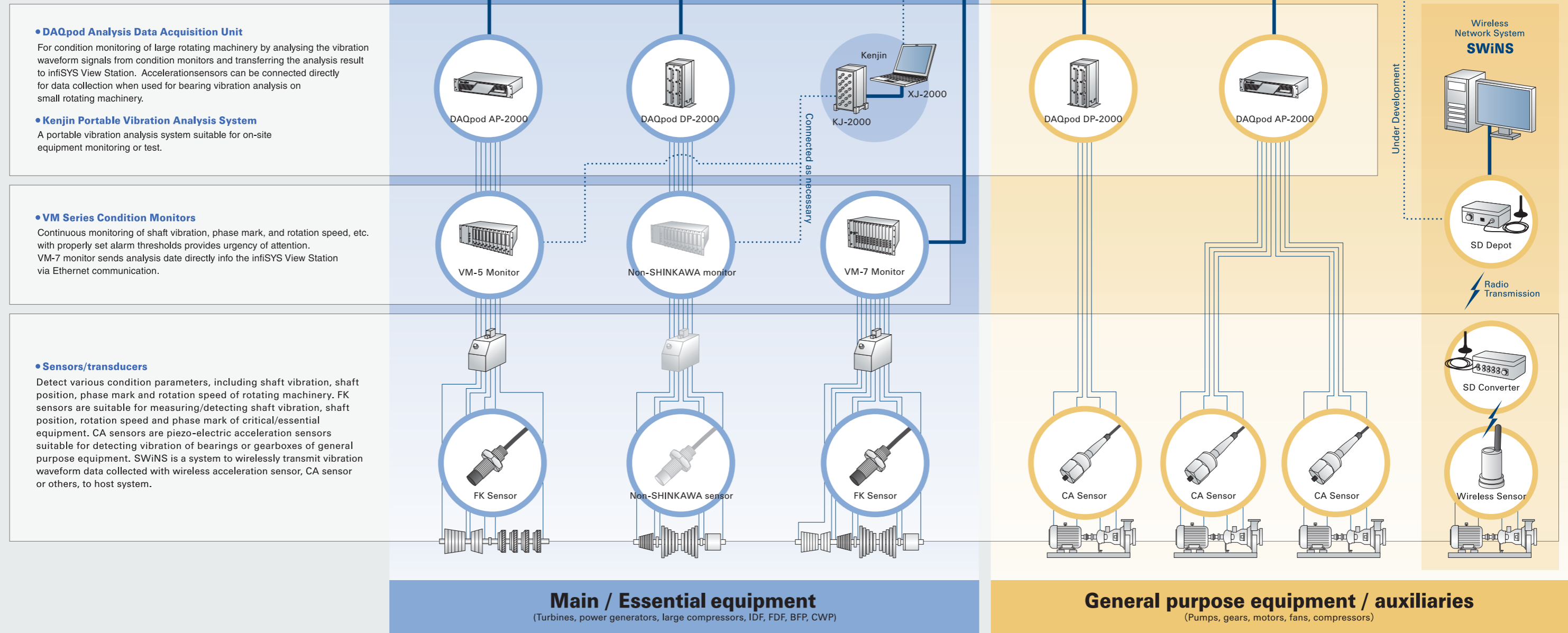
SHINKAWA has the right sized solutions to fit your equipment size and needs.

# SHINKAWA's CMS options provide customers with flexibility to suit their needs.

24/7 monitoring allows for early abnormality detection. Once the issue is known, you can plan an optimal time to perform required maintenance from overhaul, part replacement to technical updates, resulting a possible reduction of the total expense caused by emergency shutdowns or unpredicted machine failures. SHINKAWA's CMS solutions are "Right size & Right cost" for your critical machines and balance of plant(BOP) equipment, meaning you can get the required CMS solutions with minimized investment. Our CMS solutions help monitor your rotating machinery critical to your plant or process covering the monitoring of operating parameters such as shaft radial vibration, shaft axial position, casing vibration, phase mark, rotating speed, and so on of the machines supported by sleeve bearings or roller bearings.



## ■ CMS Configuration



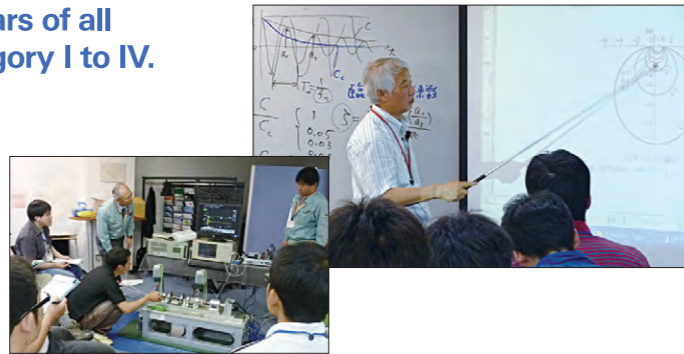
# SHINKAWA's total support covers development of engineers in succeeding Japanese technology and analysis service.

Giving safe, stable operation of customer's plant top priority, we offer not only CMS products but also affluent support to maximize the total experience.

## Training courses for Machinery Condition Analyst (Vibration) in accordance with ISO 18436-2

SHINKAWA Sensor Technology is the only certified training organization in Japan who can provide seminars of all classifications of Vibration Analyst, from category I to IV.

Management face constant pressure to ensure "safety". Vibration Analysts certified in accordance with ISO 18436-2 has been gaining in popularity. SHINKAWA Sensor Technology is Japan's only certified training organization to offer all levels of Vibration Analyst Category Training. Our years of experience in vibration monitoring, sensor technology assists customer to meet their growing demands.

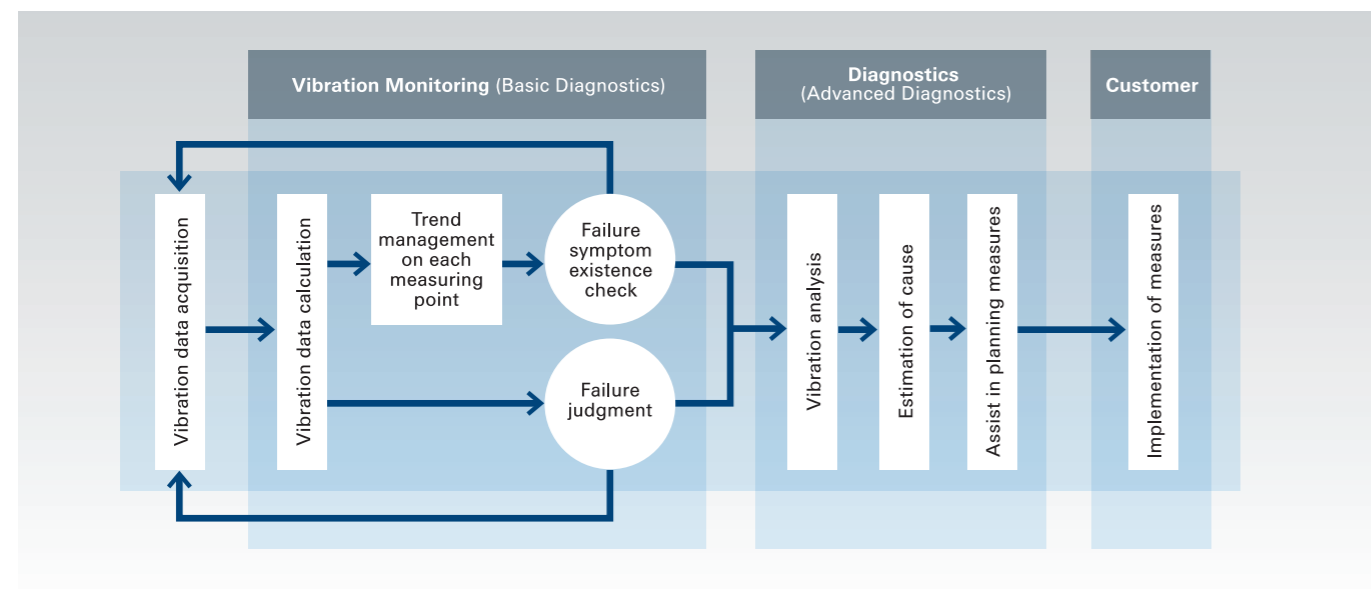


## Rotating Machinery Monitoring & Diagnostics Service

### Outsourcing service by rotating machinery monitoring/analysis specialists

Monitoring and diagnostics of rotating machinery are essential for prevention of troubles on plant assets, as well as for safe, long-life and efficient operation; however, they require all sorts of measuring instruments, engineering skills and expertise. SHINKAWA provides programs, including periodic measurements, early failure detection, condition

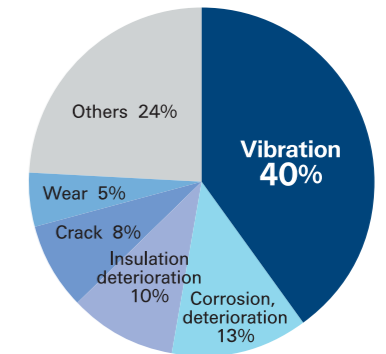
acknowledgement and vibration diagnostic/analysis reports, which leads directly to cost saving of equipment maintenance and management. Let us help you set higher safety levels on your plant equipment with quality service from our specialists. Let SHINKAWA help you with your needs.



According to Japan Institute of Plant Maintenance, as much as 40% of plant equipment problems result from vibration on rotating equipment.

### Causes of Troubles in Plants

Source: Japan Institute of Plant Maintenance Research report on maintenance technology –equipment diagnosis technology– of production plants



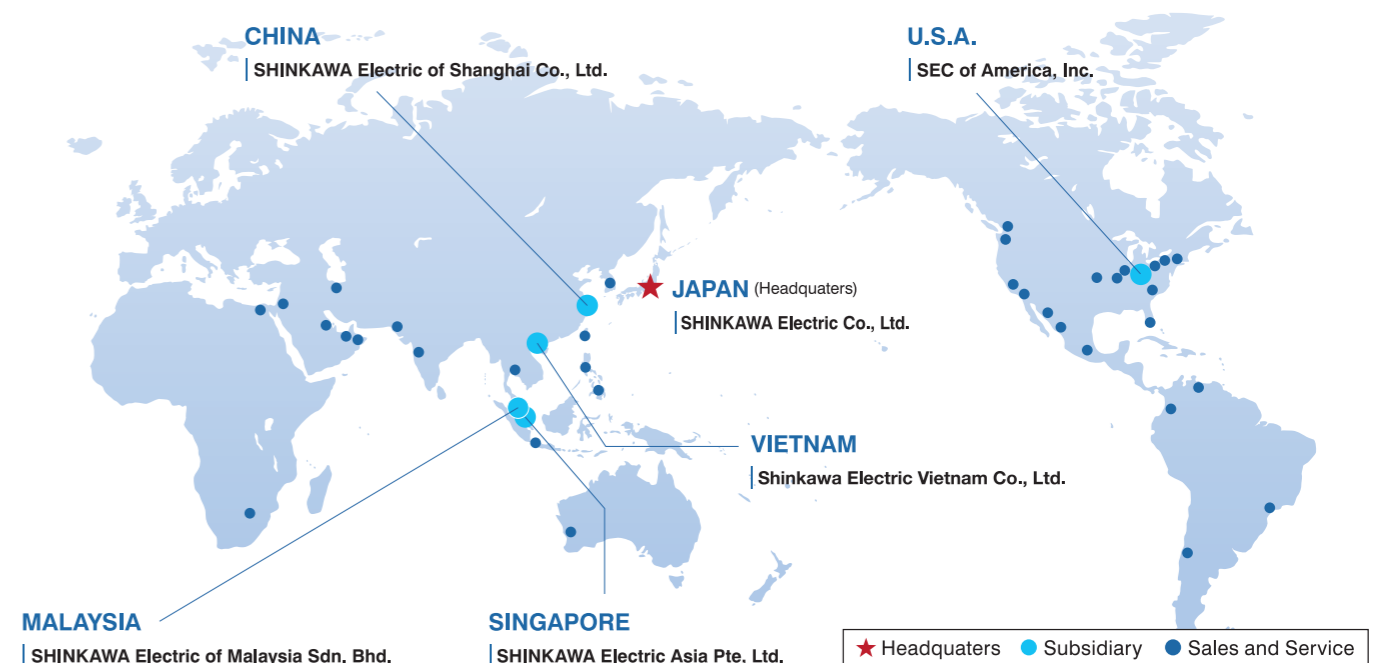
SHINKAWA's CMS detects failure symptom in early stage with monitoring, analyzing and diagnosing vibration from rotating machinery, estimates the cause to prevent failures/accidents and ultimately contributes to plant's efficient, continuous safe production.

### Related Standards

Vibration measurement and evaluation of various rotating machinery are standardized by the International Organization for Standardization (ISO), and the sensors and monitoring systems used for the machinery protection systems by the American Petroleum Institute (API).  
 ISO 20816 Series: Mechanical vibration – Measurement and evaluation of machine vibration –  
 API 670 5th Edition: Machinery Protection Systems

## The SHINKAWA Network

SHINKAWA is employing global thinking to create a business with a worldwide network currently comprising over 50 bases around the world.



Please refer to our website to find the information such as addresses and phone numbers of our subsidiaries.  
 URL: <https://www.shinkawa.co.jp/eng/>