



| **V1Bcare**

REMOTE CONDITION MONITORING

www.ec-systems.pl

REMOTE CONDITION MONITORING - KNOWLEDGE & EXPERIENCE YOU CAN RELAY ON

Efficiency in machinery maintenance is more and more dependent on monitoring and diagnostic technology. Implementing such systems allows to improve safety level, increase availability and reduce maintenance costs, however they also require constant data collection and analysis. This means additional costs of hiring and training qualified personnel, as well as IT infrastructure expenses.

Remote condition monitoring service is a unique proposal allowing to optimize machine operation without additional employment costs, proper personnel training and expenses on IT

infrastructure needed to manage a diagnostic system. EC Systems remote condition monitoring system: VIBcare ensures, that customer's machines are supervised by experienced diagnosticians. The architecture of the system allows to manage hundreds of installations distributed on a large area, our specialists can remotely monitor machines located in any place in the world. The main purpose of the service is to early detect developing machine failures, which means improvement of security level, increased availability and lowered maintenance costs.

VIBcare in a nutshell:

- Custom configuration of monitoring systems suiting your machinery
- Automatic alarm threshold setting
- Centralized data replication
- Continuous monitoring and analysis of all current data
- Periodic reporting on technical state of your machines

KEY BENEFITS OF THE VIBcare:

- **Lower personnel costs** – no need to hire specialists on-site
- **Lower IT costs** – no need to maintain a database for the monitoring data
- **Supervision over the machinery** done by highest class specialists
- **Immediate reaction** in case of an emergency

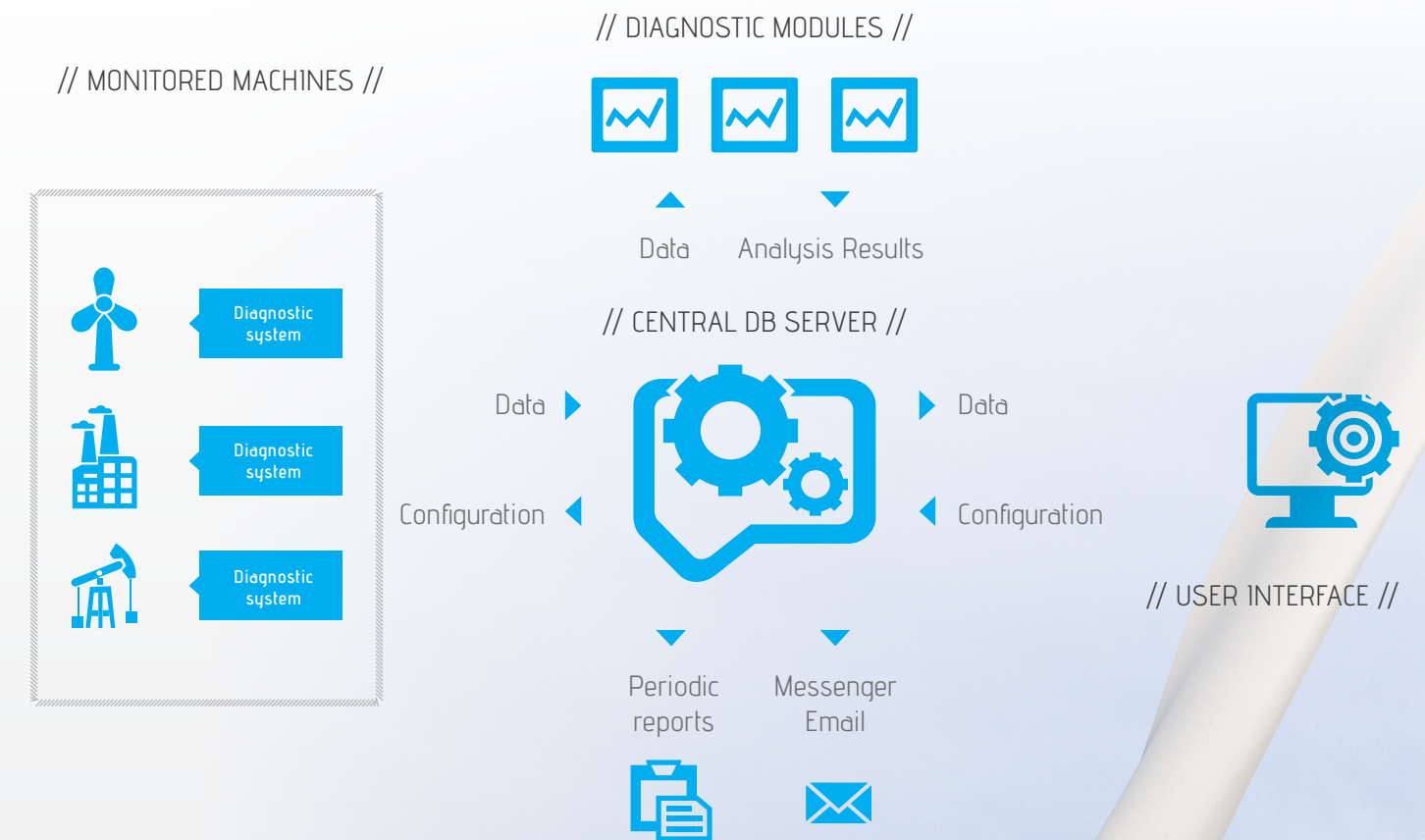
VIBcare is an extension of our VIBex condition monitoring system for rotating machinery. The center collects data from individual VIBex systems installed at the customer's facilities, which done through safe internet connection. The data is analyzed by advanced diagnostic modules, which detect non-standard

or dangerous machine operational conditions.

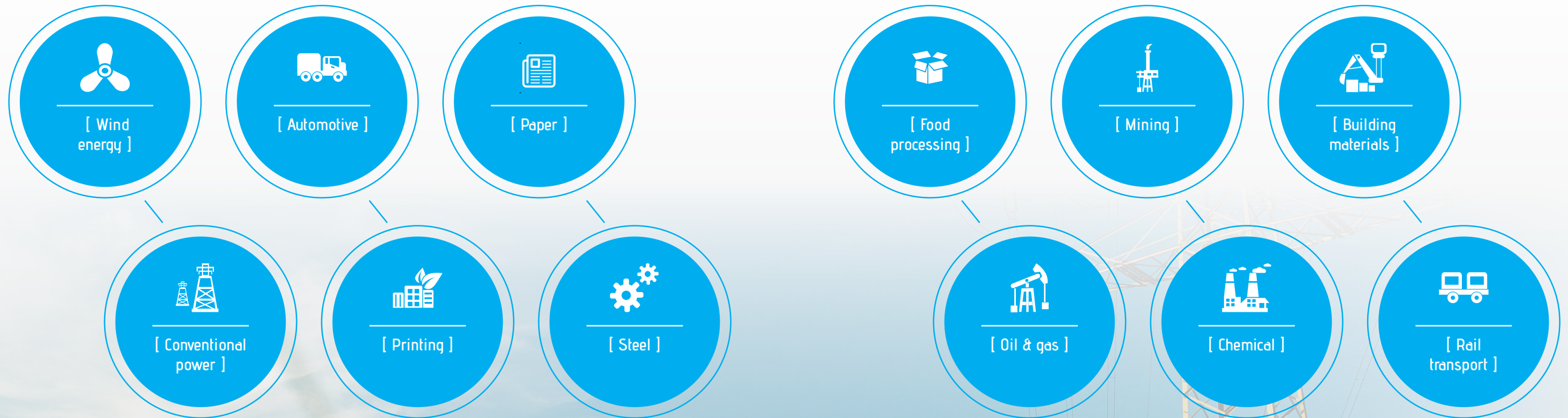
When situation requires special attention, our specialists conduct detailed analysis of the machine. If they detect any relevant signs of a developing failure, the customer is informed immediately. In addition to that, we prepare periodic reports for

each monitored machine which describe its current condition. The reports also include important suggestions regarding further operation of the machine and a list of machine's components which should be under special supervision in the forthcoming period. This helps to avoid failures or other operational problems.

SYSTEM DIAGRAM



APPLICATION OF VIBcare IN INDUSTRY



VIBcare COMPLEMENTARY PACKAGES

The VIBcare service, depending on customer needs, comprises of the following complementary packages:

ProActive Package

↑ VIBcare Proactive is a constant, remote supervision over operating machines, based on Vibex system implemented by EC Systems. In the scope of this package the engineering team of EC Systems takes over the responsibility for monitoring of the machines included in the service agreement. The configuration of the system is performed together with the client based on audit and analysis of machines' operation in the reference period. The settings of the monitoring, together with the warning and alarm thresholds are transferred to the customer. When a threshold is breached, EC Systems informs the customer about machine's condition. Based

on recommendation, the client decides about possible shut down, or scheduling maintenance stoppage. EC Systems additionally handles emergency notifications coming from the customer. The service does not have any hourly limit.

ReActive Package

↑ Guaranteed availability of EC Systems engineering team supporting client's maintenance department. EC Systems experts carry current tasks according to customer's requests or according to appointed schedule. The work is performed remotely in cooperation with the customer.

OnDemand Package

↑ Based on frame agreement the customer receives direct contact to the engineer on duty. There is no fixed monthly fee, however EC Systems does not guarantee team's availability. The fee is based directly on the amount of used engineering hours.

For each of the packages there are the following extending options available:

Easy Option

↑ Together with the VIBcare service EC Systems delivers and installs a complete monitoring system without the need to purchase it up front (does not apply to cabling and sensors). The ownership of the system is transferred to the customer after 5 years of continuous delivery of the VIBcare service. The option is available only with the ProActive Package.

24/7 Option

↑ Increased availability to handle emergency notifications and responsibility for machines monitoring up to 24 hours a day, 7 days a week.

4h Option

↑ Guaranteed reaction time reduced to 4 hours.

SERVICE AVAILABILITY CONDITIONS

	VIBcare ReActive	VIBcare ProActive	VIBcare OnDemand
Work model	Continuous according to scope & schedule	Work on demand	Work on demand
Engineering hours limit included in the monthly fee	No limit	As per agreement	-
Emergency reaction time	Immediate, if possible Guaranteed reaction time of 8 hours* from submission *4 hours with 4h Option		No guaranteed reaction time
Machine monitoring	Continuous	-	-
Handling standard notifications	9:00 – 17:00 CET, working days		Non stop
Handling emergency notifications	9:00 – 17:00 CET, working days Nonstop with 24/7 Option		-
Other requests	Requests outside of the package scope are charged per used engineering hour		

