

**Nine simple steps** to mitigate the risk of unwanted machine stops.

**ReSES.net technology**

- **HW-SES-KIT01: SES Logger**  
Hand held device for manual data collection with included ICP accelerometer 100 mV/g and cable.
- **RQ-CS-X: CM Point UIDs**  
Stainless steel stud with smart caps. X is the color of the cap (B: blue, P: purple, O: orange)."
- **HW-APDC-ST-XX: SES Station**  
Automatic periodical data collection unit with included ICP accelerometers 100 mV/g and cables. XX is the number of machine CM Points.
- **HW-APDC-AP: ReSES Access point**  
Connects SES Stations units to the cloud.
- **HW-SES-GTW-01: ReSES Gateway**  
Transfers data from SES Logger to the cloud using a local network

ICP® is a trademark of PCB PIEZOTRONICS, INC.

**Why choose ReSES.net?**

To create **ReSES.net**, we combined state of the art technologies with the accumulated knowledge of experts with decades of experience in CM program implementation, data collection, and analyses. The platform provides its users with:

- Simple CM program implementation.
- Easy data collection process.
- Smart transformation of data into actions.
- Machine Information in under 72 hours after receiving data.
- Affordable CM programs with costs that are transparent and easy to calculate.

**ReSES.net platform environmental footprint**

- Carbon neutral CM program  
– 0 g net CO<sub>2</sub> emissions
- Disposal waste per machine (from CM Points):  
– RQ studs: 125 g recyclable or reusable steel  
– RQ caps: 25 g recyclable HDPE plastic



For more information, contact us at

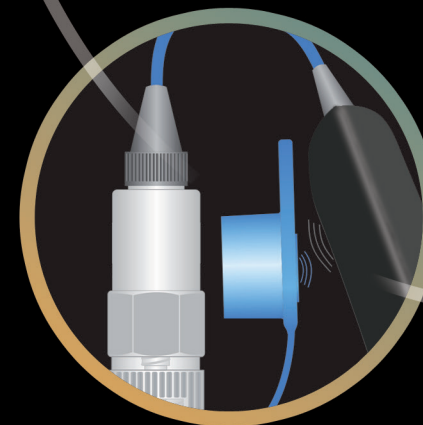
[info@relianeering.com](mailto:info@relianeering.com)

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**ReSES.net platform**

**CBM INFORMATION**

- MACHINE STATUS
- RECOMMENDED
- MAINTENANCE
- ACTIONS

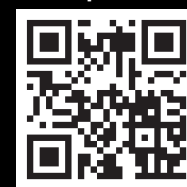


**Data transfer**

ReSES Communicator App



**ReSES.net cloud platform**



**RELIANEERING**  
Simple. Easy. Smart.

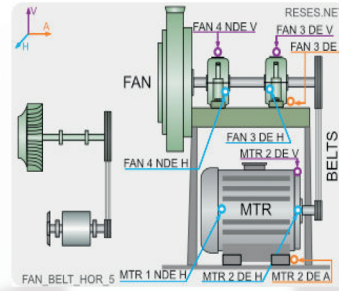
ReSES.net provides CBM information to the maintenance team. This simplifies the decision process and mitigates the risk of unwanted production stops.

The CBM Information includes:

- **Action oriented recommendations, based on**
- **Machine vibration condition, defined from**
- **Discovered fault patterns.**

Analysed on	CM Status	Analysed by
2021-11-29 08:37:14	ATTENTION	N.Nikolov

Equipment	CM Status	CMMS ID
EL MOTOR (1)	ACCEPTABLE	
TRANSMISSION - BELT (2)	ACCEPTABLE	
FAN - CENTRIFUGAL (3)	ATTENTION	



Equipment	Component	Fault	Sev	Recommended Action	Pri
FAN - CENTRIFUGAL (3)	FAN CENTR	UNDEFINED FAULT - NDE: Ski-slope in Vel spectra.	High	Collect new data - Collect new data.	Med
FAN - CENTRIFUGAL (3)	FAN CENTR	Broken component - NDE: Peak at 6,82X in Acceleration spectra.	Med	Provide information - Provide information for support bearings.	Med

## DATA COLLECTION

*It is quick and easy*

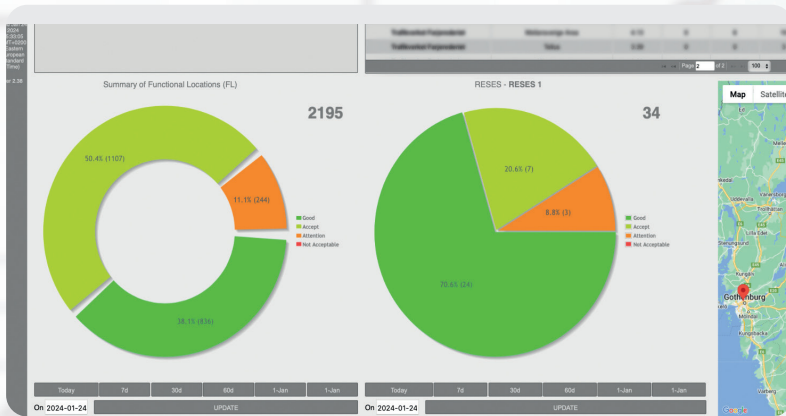
- Go to the machine.
- Attach the sensor to the CM point.
- Scan the CM Point UID with the SES logger.
- Press the button, and you are done!

ReSES Communicator app or ReSES Gateway will automatically transfer all data to the cloud.

The ReSES.net platform eliminates the traditional „routes“ and the need to navigate large hierarchy trees on the device screen.

The users are automatically notified by email about the machines due or overdue for data collection in the coming week.

**NOTE:** There is no need for an Internet connection prior to or during the data collection.



## ANALYSIS

*Do it smart*

Relianeering's approach combines the experience of certified CM specialists with the power of modern data processing technologies like ML. We use standard vibration monitoring methods as well as powerful proprietary algorithms to compute and analyze

- More than 20 scalar vibration parameters per CM point.
- Velocity, acceleration spectra.
- Time signal with an option to play and listen.
- Smart enveloping spectra and rE Graph plot.
- Each collected data set is analyzed and converted to CBM Information.

## IMPLEMENTATION

*Designed to be simple*

The implementation process is crucial for the effectiveness of the CM program. With the ReSES.net platform, this process can be done in a few simple steps:

- Select machines and define the scope of the CM program.
- Relianeering's team of experts maps each machine to a ReSES.net CM model.
- Provide required data about the equipment: speed, power, etc.
- The Relianeering team builds the CM hierarchy and delivers the machine CM Points package (RQ-CS-x\* with CM Point location label).
- Install CM points on the machine.



\* RQ-CS-x = CM Point UID with fix stud to attach sensor adaptor



## INFORMATION

*Available anytime, anywhere*

The ReSES.net platform focuses on the needs of the maintenance team to run data-driven maintenance. Users have 24/7 access from any location with an Internet connection. Users receive emails automatically after the analysis is completed. The maintenance team can find the necessary machine information easily and make smart decisions based on:

- **Machine CM recommendations and findings**
- **Machine CM history**
- **CM status comparison between Company Sites**
- **Site(s) current and past status at any specific date and CM Site status trends**

The user can provide quick and simple feedback about given recommendations and findings. The ReSES.net platform allows the export of data and information in CSV format for further analyses in CMMS or other digital systems. The user can always download the Functional Location CM status report in PDF.

## ABBREVIATIONS

<b>CBM</b>	Condition-Based Maintenance
<b>CM</b>	Condition Monitoring
<b>CMMS</b>	Computerized Maintenance Management System
<b>CSV</b>	Comma-Separated Values
<b>IoT</b>	Internet of Things
<b>ML</b>	Machine Learning
<b>PDF</b>	Portable Document File
<b>UID</b>	Unique Identifier