

VEM SOLUTIONS

GOOD DAY!
NICE TO MEET YOU



SOFTWARE

ROTATION LF

RotationLF – Analytics Solution



Anomaly Detection

- Automated Anomaly Detection
- Optional User Thresholds



Automated Fault Mode Characterization

- Machine/ Component Specific Fault Modes
- Algorithms to evaluate condition



Artificial Intelligence based Remaining Useful Life prediction

- Fault Mode Severity Depended
- Rate of change/ Projection
- Prediction



Feedback

- Machine Data Details
- Maintenance action input
- Manual
- CMMS integration

Minimize learning cycles and reduce false alarms by up to 90%, compared to competitors.

HARDWARE

MACHINE DOCTOR

Vibration in 3D



- TRIAX MEMS
- Fmax: 8kHz (X,Y), 5.1kHz (Z)
- Max ACC: $\pm 64g$
- Freq Res: max 0.0625Hz
- Lines Of Resolution: 100-24k

Acoustic Emission



- Frequency Range: 100Hz - 80kHz
- Peak Sens.: 26dB FS ± 1 dB

Surface Temperature



- Resolution: 0.02°C
- Range: -40°C to 120°C



RPM Measurement



- Hall Sensor: 10-5000 RPM (99.9%)
- Virtual RPM: 600-20,000 RPM ($>85\%$)

Magnetic Flux



- Range: ± 2 Gauss to ± 200 Gauss
- Sampling Rate: 20kHz

Humidity

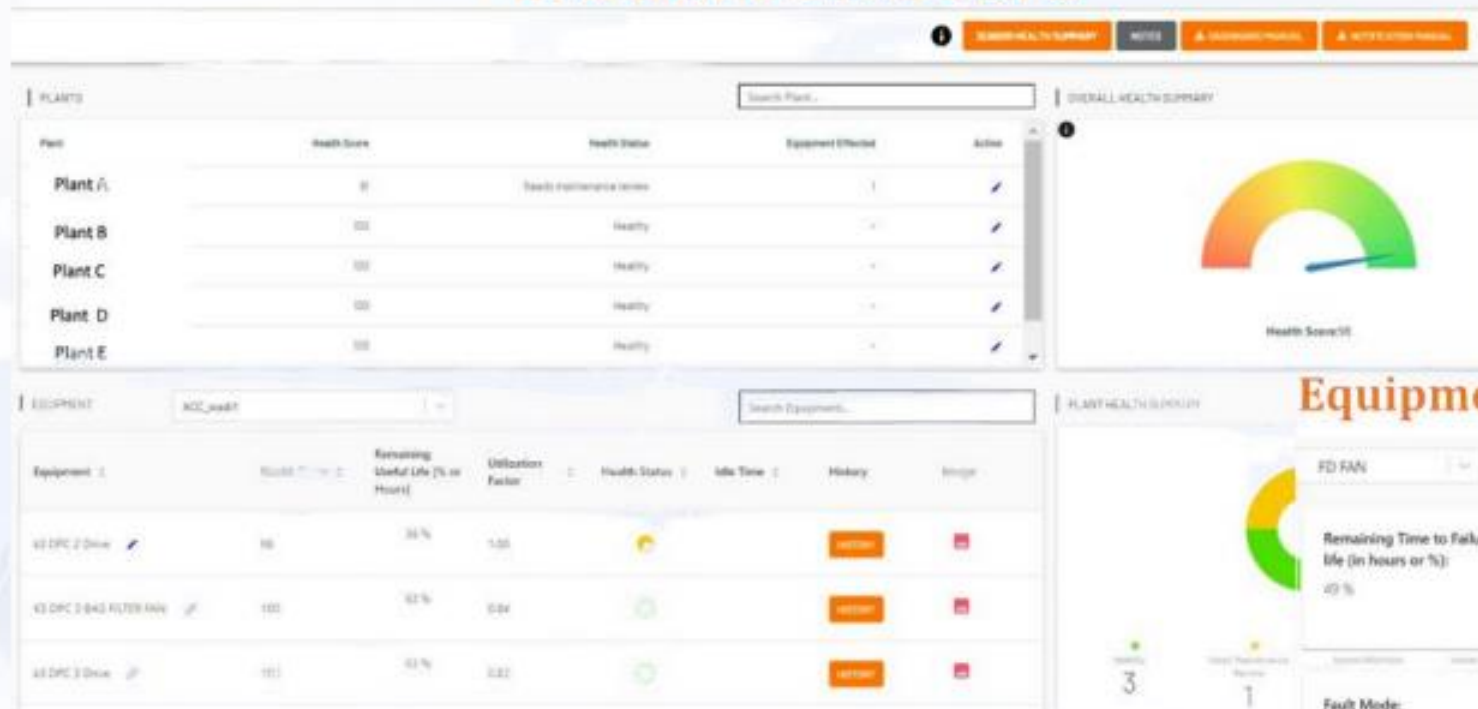


- Range: 20 to $+80\%$ RH
- Accuracy: 0.004% RH/LSB

SOFTWARE

ROTATION LF

Central Dashboard

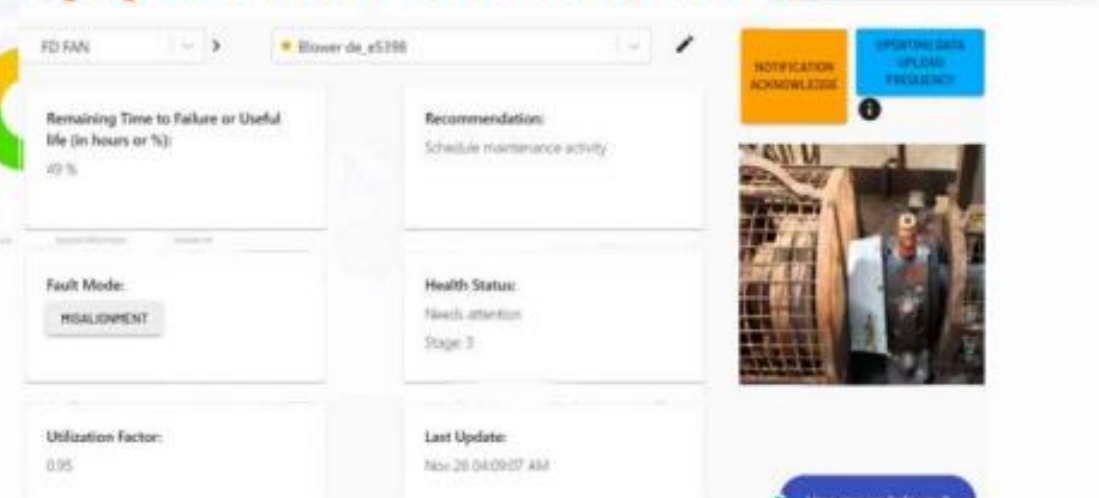


Prediction & Prescription

Prediction

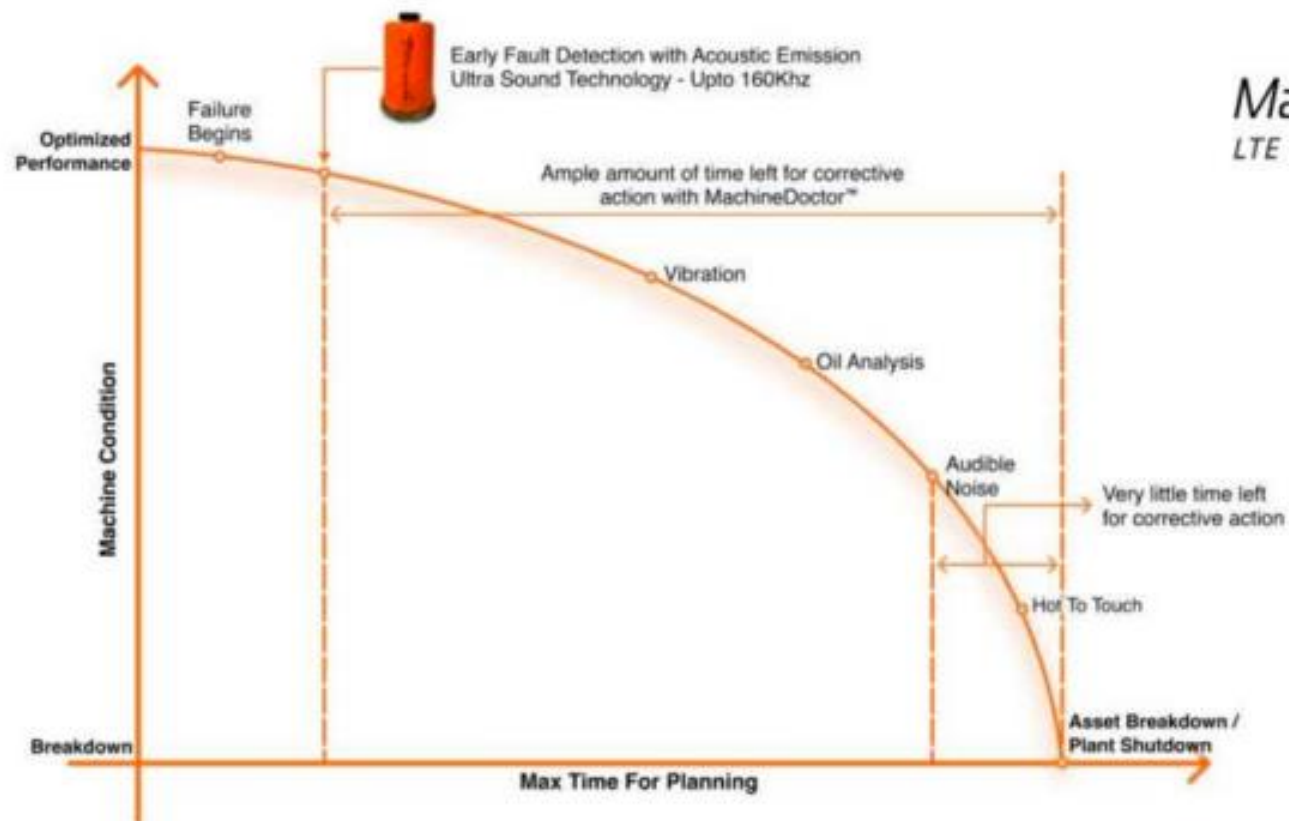
Prescription

Equipment Wise - Health Prediction



HARDWARE

MACHINE DOCTOR



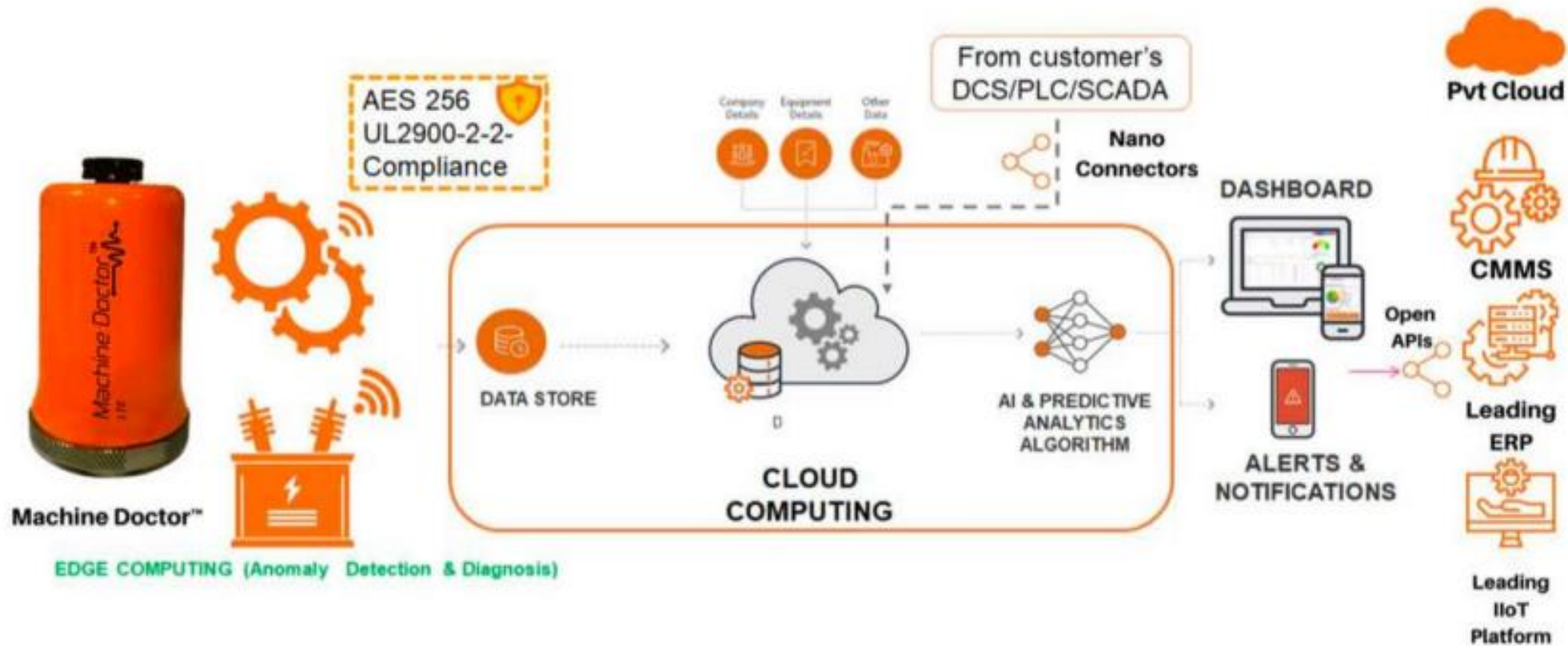
Machine Doctor™
LTE

6-in-1

SECURITY + CERTIFICATION

MACHINE DOCTOR

Data Flow Structure



SECURITY + CERTIFICATION

MACHINE DOCTOR

Sensor



UL 746C



IC

FCC

Data Pipeline



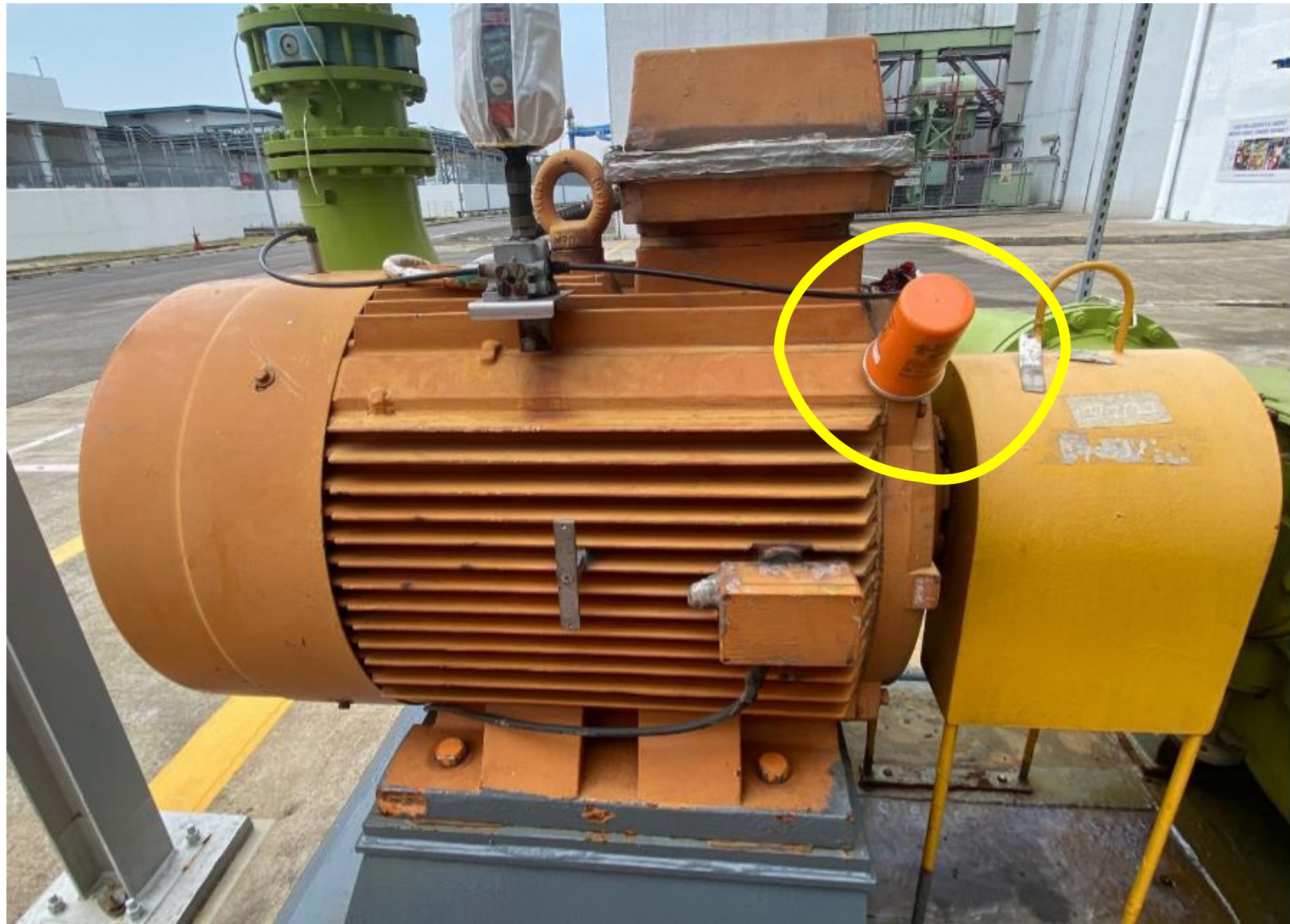
2900-2-2

AES 256 Encryption

Organization



SOC 2
TYPE II
CERTIFIED



WHY VEM?

MACHINE DOCTOR

Automated Analysis & Thresholds



Range of Use

- Low speed
- Variable Speed
- 40-5000 RPM

Integrations



Sensing Capabilities

Machine DoctorTM
LTE
6-in-1

Faster Set-Up



Certifications



Acoustics



Communication Protocols



Flexible Software

Ingest existing
sensor data