



Wireless, Battery-Free Sensors

John Biondolillo, Steve Folmar

August 19, 2026

Industrial Accelerometer

A credible beachhead for machines, uptime, and predictive maintenance

MACHINERY
MONITORING
SYSTEMS, LLC
Advancing Machinery Solutions™

±50g

measurement range

20KHz

frequency response

Class 1 Div.2

hazardous-area certification

Why it matters

Sensors for real environments, transmit reliably, and integrate with monitoring workflows.

SatAlite Machinery Monitoring Systems, LLC
Pushing the boundaries of Vibration Monitoring
Harvesting RF Energy
provides continuous data monitoring



Alarming - Sends FFT upon exception (2 alarm levels)
Transmission Distance - 1 mile in open air (installation dependent)



Wireless Battery-Free Smart Sensors

SatAllite™ Accelerometer



Wireless, Battery-Free Continuous Monitoring

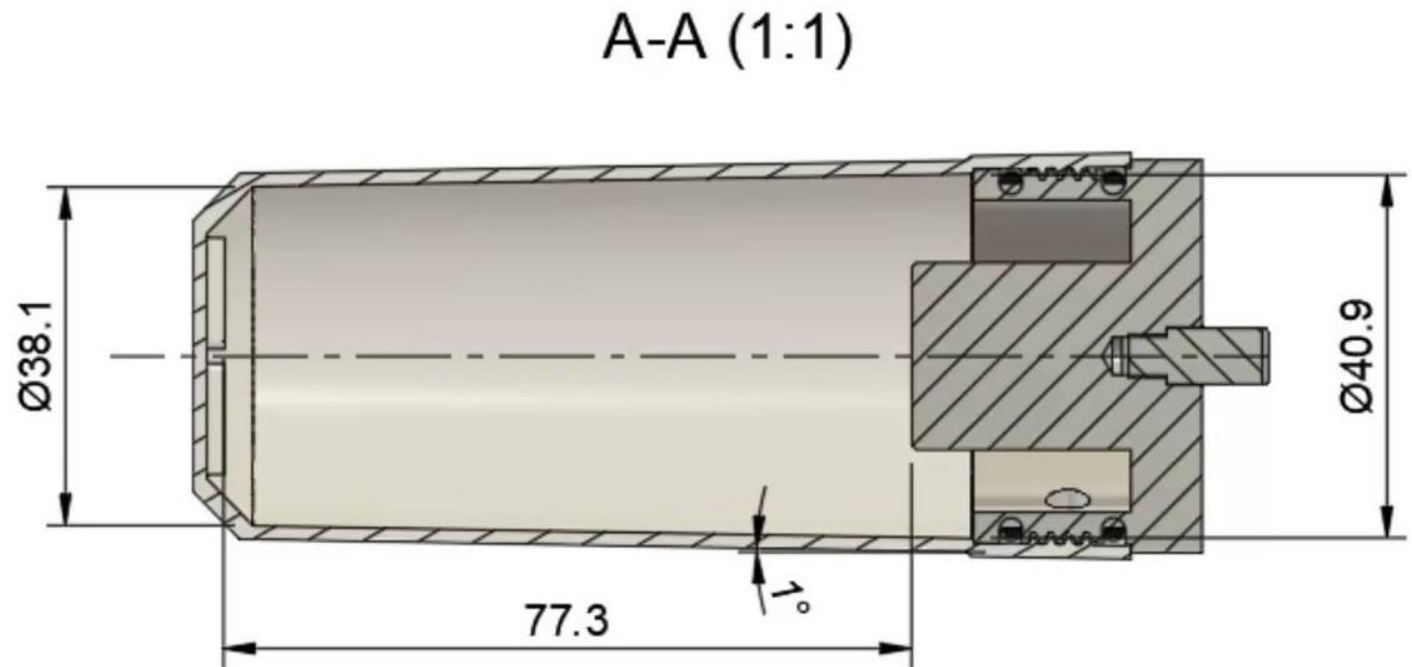
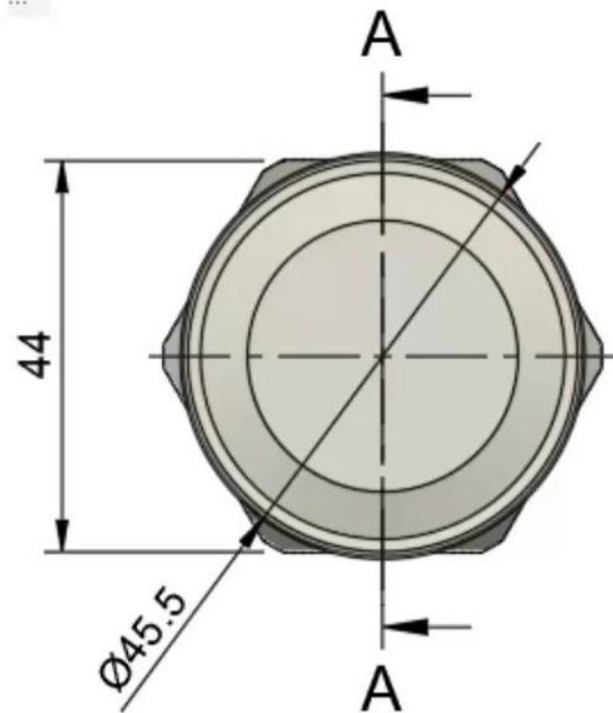
Specifications:

Range	+/- 50g
Freq/ Response	15 KHz
Transmission Range	1 Mile
Transmission Freq.	15 min (FFT)
Haz Area Cert.	Class 1 Div. 2 A-D

Installation Dependent

Mounting Stud Thread Options

1/4-28, 8-32, M8, M10



Sensor Specifications

Sensor	Specification
Sensor ID	Factory Set, Unique Number
Battery	N/A
Transmission Range	1 mile (Open Air)
Transmission Interval	Programable, Based on RX Strength
Certifications	FCC, IC, ANATEL
Hazardous Area Certification	UL, Ex, Class I Div. I. II (A-D) ATEX
Temperature	275F/135C
Frequency Response	20KHz
Measurement Range	+/- 50g
Transmission Frequency	Distance from Charge Beacon(Open Air)
1 Minute	20 Meters
3 Minutes	30 Meters
5 Minutes	40 Meters

Region	Frequency Range
Australia	920-926 MHz
Brazil	902-907.5/915-928 MHz
Europe	865.6-867.6 MHz
India	865-867 MHz
Israel	915-917 MHz
Japan	916-921 MHz
North America	902-928 MHz
Singapore	920-925 MHz

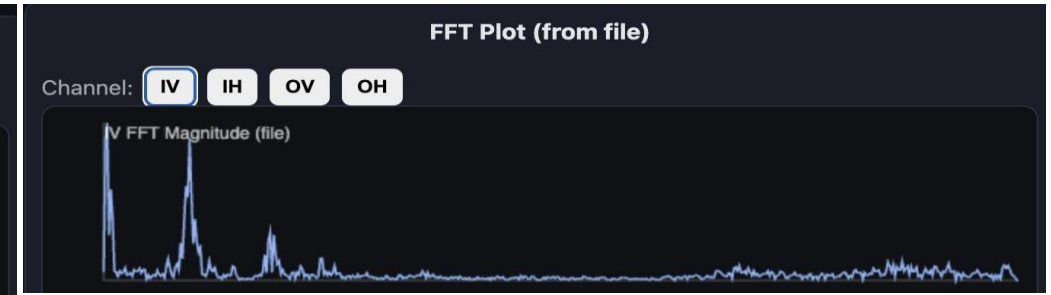
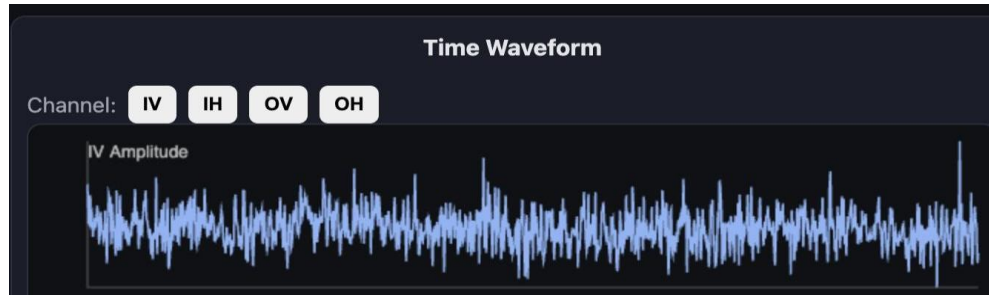
Note:

Sensor continuously scans measured waveforms and compares to alarm limits. FFT alerts are transmitted upon exception.

SatAllite™



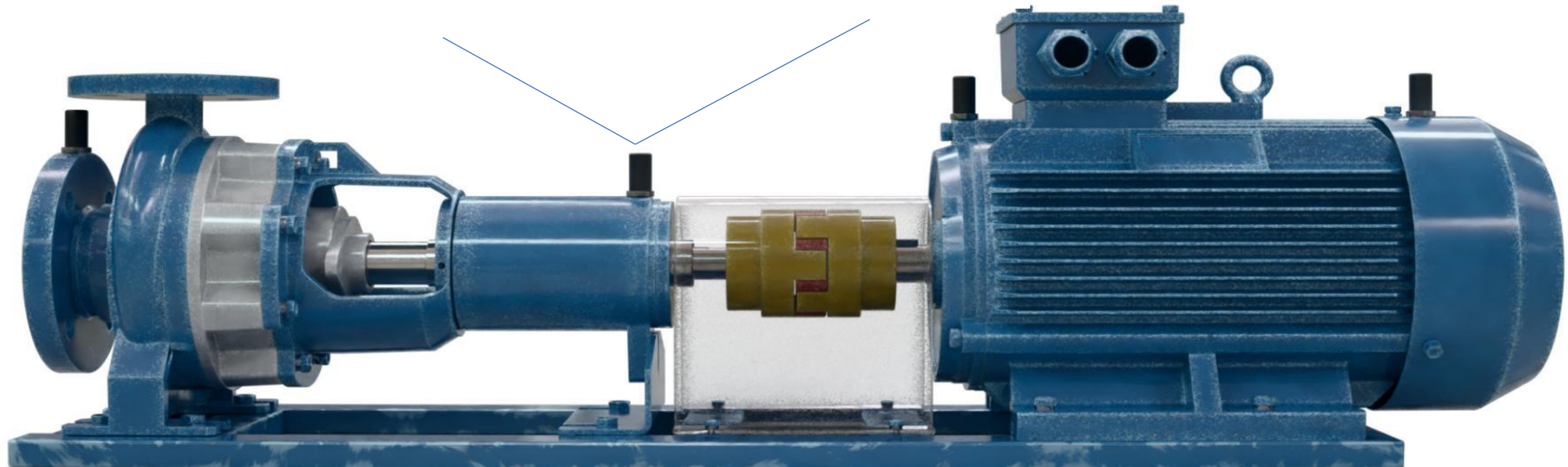
Base
Station



High vibration detected

Pump A-103 in Texas Plant showing abnormal vibration patterns over the last 24 hours.

[Investigate →](#)

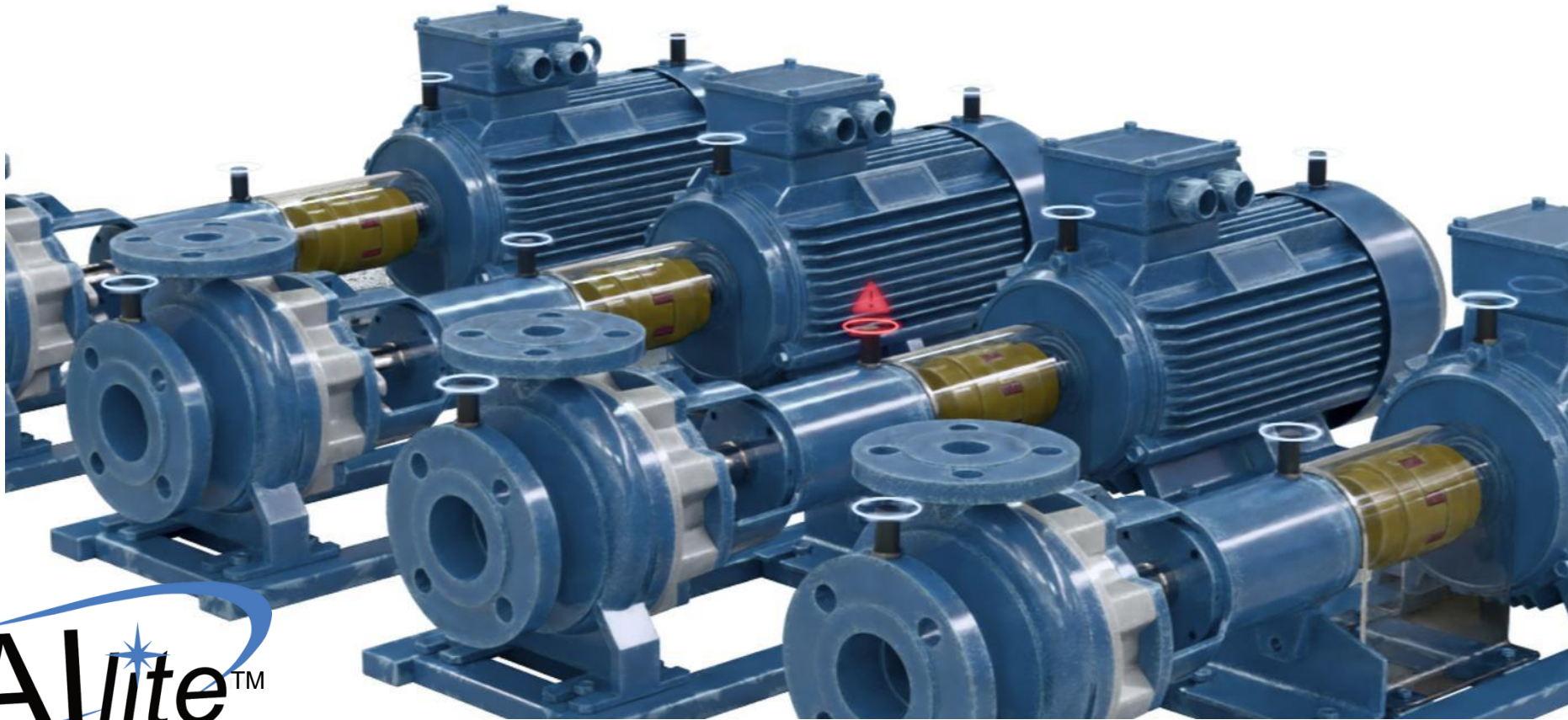


Simple System, Easy Installation

Revolutionary Technology



Base
Station



Charge Beacon Specifications

Charge Beacon	Specification
Beacon ID	Factory Set, Unique Number
Power	24VDC or 120VAC @60Hz 24VDC or 230VAC @50Hz
Transmission Range 4W	250/500 ft. 76/152 m (Open Air)
Transmission Interval	Continuous
Certifications	FCC, IC, ANATEL
Hazardous Area Certification	UL, Ex, Class I Div. I, II (A-D) ATEX
Enclosure Rating	IP67, NEMA 4X



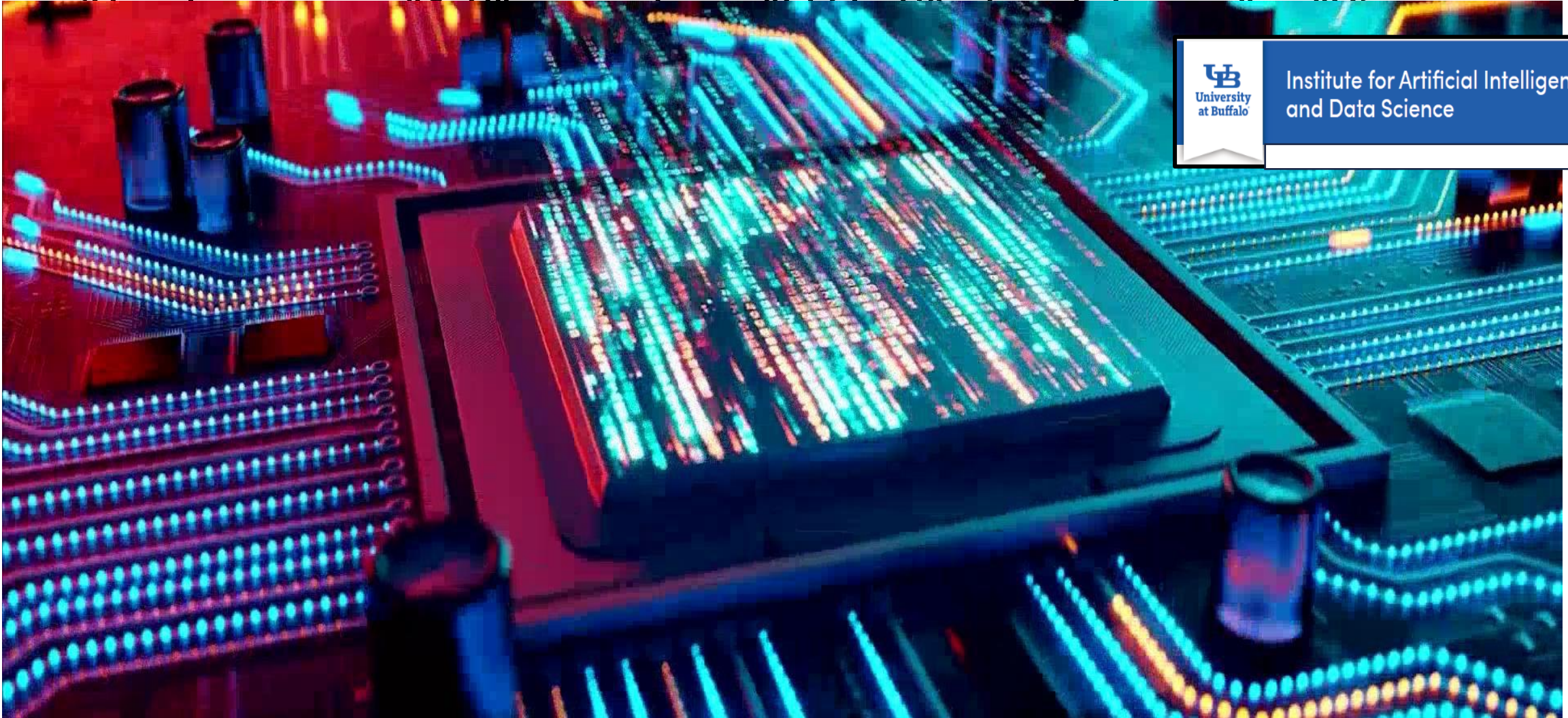
Base Station Receiver Specification



Base-Station	Specification
Beacon ID	Factory Set, Unique Number
Power	24VDC or 120VAC @60Hz 24VDC or 230VAC @50Hz
Receive Range	250/500 ft. 76/152 m (Open Air)
Receive Interval	Continuous
Certifications	FCC, IC, ANATEL
Hazardous Area Certification	UL, Ex, Class I Div. I. II (A-D) ATEX
Communication	MODBUS TCP/IP, Ethernet, Wireless Ethernet, RS232, RS485, Bluetooth, WiFi
Enclosure Rating	IP67, NEMA 4X

MMS in partnership with University at Buffalo (MMS Labs)

MACHINERY
MONITORING
SYSTEMS, LLC
Advancing Machinery Solutions™



Institute for Artificial Intelligence
and Data Science

`<q transform="matrix(1.0.0.1.-926.289.-150)">`

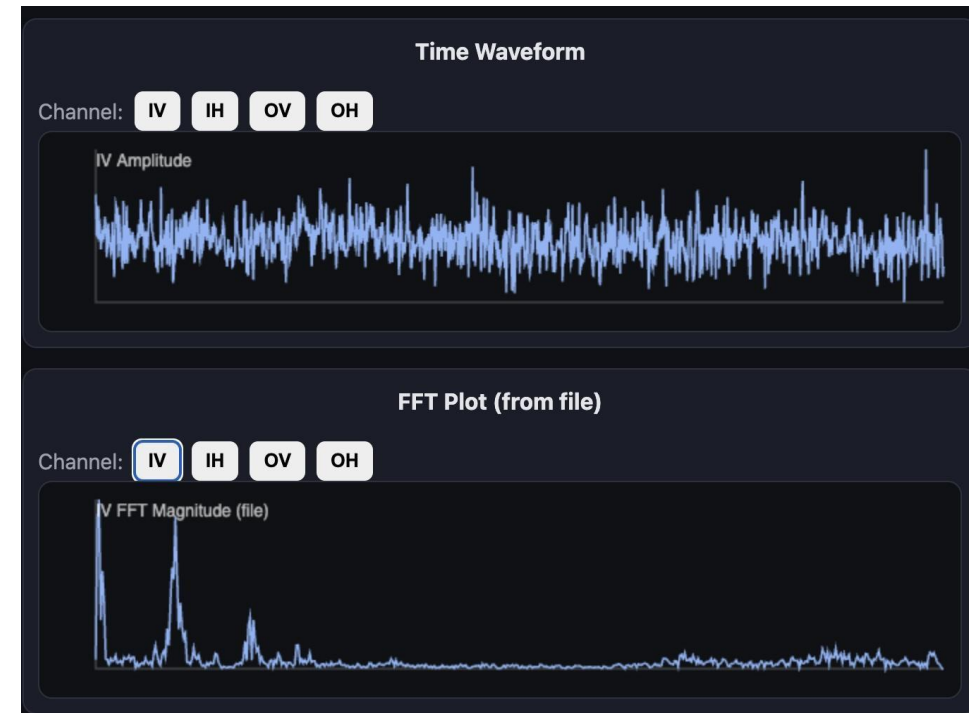
Our Predictive AI System Understands Machine Behavior

MMS Labs

Our system is designed to **verify patterns in waveform and frequency data (FFT)** to accurately identify and classify faults.

By analyzing subtle changes in vibration and signal signatures, our neural networks learn to detect:

- Imbalance
- Misalignment
- Bearing Faults
- Normal operating conditions
- More conditions to be added



We invite you to talk with us and watch the platform in action.

Let's build a smarter, more reliable future together.

A Broad Spectrum of Applications

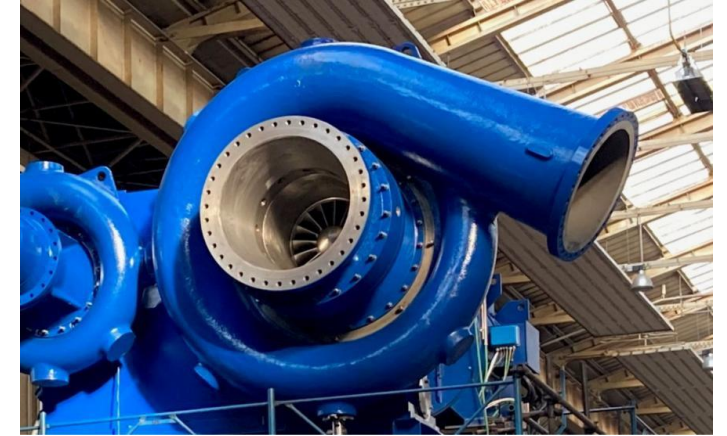
Wireless, Battery-Free Monitoring



Motors and Pumps



Fans and Gearboxes



Centrifugal Compressors



Pipeline Monitoring



PSA Beds



Reciprocating Compressors

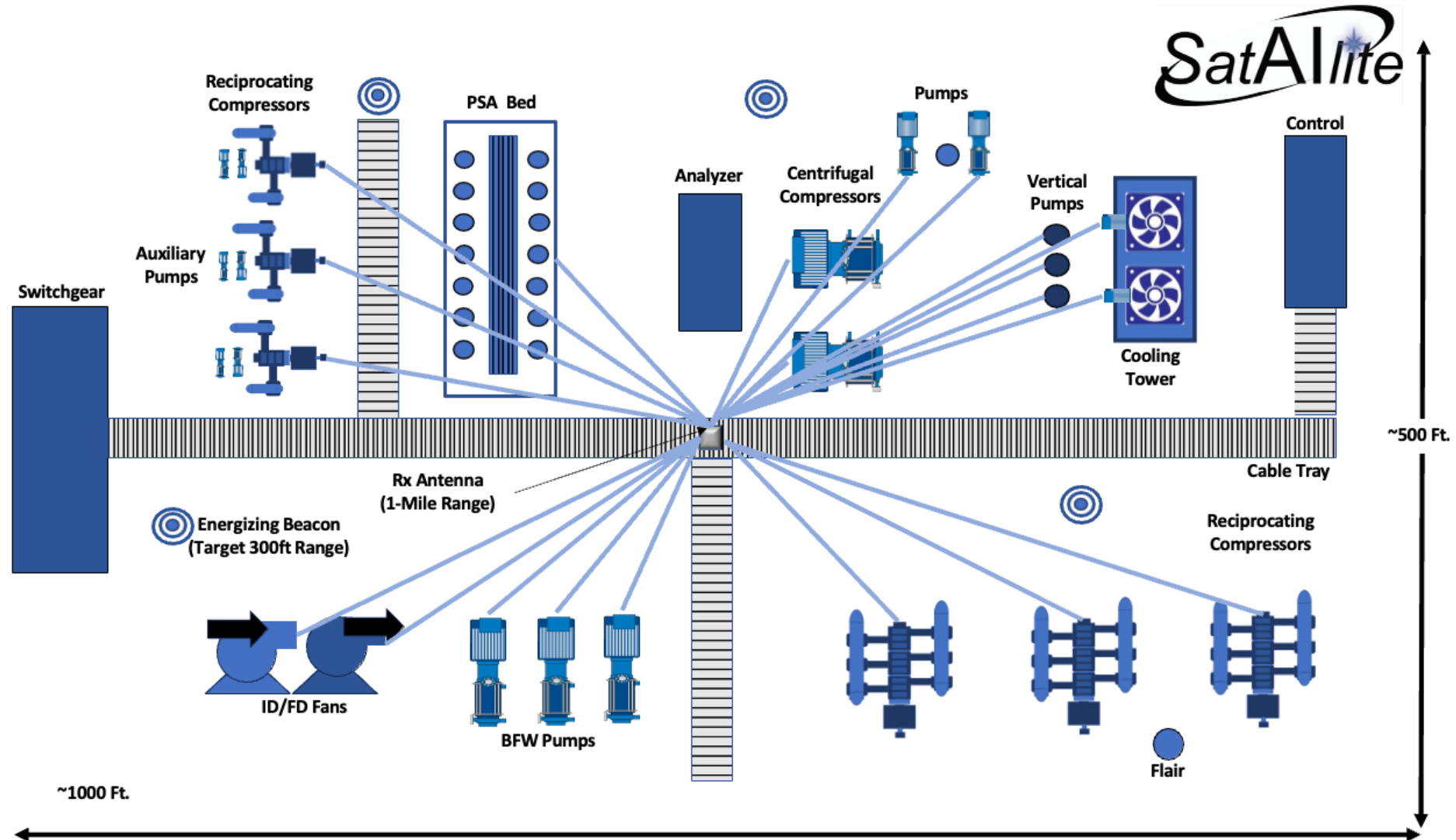


SatAllite™ in Use

MACHINERY
MONITORING
SYSTEMS, LLC
Advancing Machinery Solutions™



Plant Assets & Active Monitoring Application





Thank you!