IRD Mechanalysis® Limited
The Vibration People®

FACLON LABS

Smart Machinery Condition and Vibration Monitoring

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About **Faclon**

As a brief introduction, we are Mumbai based IoT
company started by **IIT-Bombay alumni**. We are End to
end provider IoT with sensors, IoT hardware and Software
with Key focus in optimization of utilities and machines.

Our prestigious Clients: GRASIM, L&T, TATA Power,
NMDC, JBF, POSCO, JAYTEA, Embassy, Raymond, Idemia
etc.

About IRD **Mechanalysis**

IRD Mechanalysis Limited is an Indian Independent Company with roots tracing back to IRD Mechanalysis Inc., USA. IRD Mechanalysis Limited has been providing Condition Monitoring Solutions to the World since 1955 and has been present in India since 1962.

We are popularly known as 'The Vibration People'. We manufacture Vibration Meters, Sensors, Monitoring Systems and provide associated services in the field of Condition Monitoring and Root Cause Analysis. IRD is serving more that 2000 clients globally with more than 20k installations.

Common **problems** on Industrial machinery

- Unbalanced
- Coupling Misalignment
- Loose Foundation
- Defective bearings
- Resonance
- High noise
- Repetitive failures
- Poor performance
- Spindle vibration and poor product finish on machine tools
- Frequent burning and heating of drive motors
- Leakage
- High power consumption
- And a host of others

Assets Covered

- Any Rotating Equipment
- Pumps
- Motors
- Blowers
- Fans
- Turbines
- compressors
- Machine tools

Data Driven Machinery Management

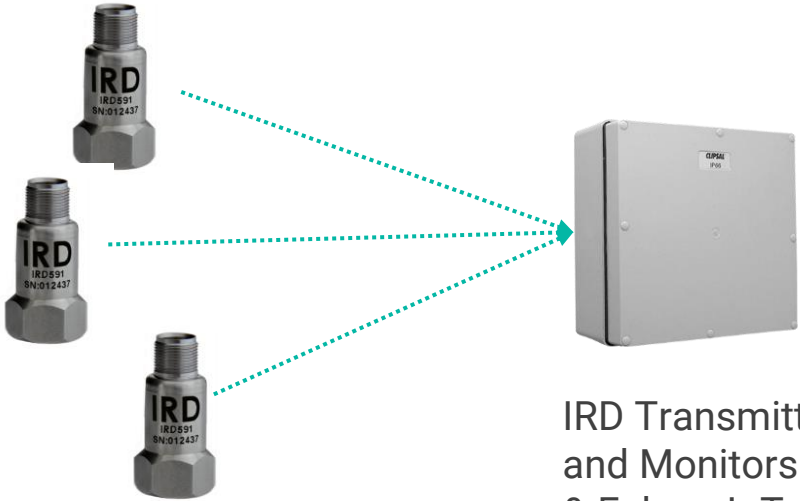Data collection and Automated Diagnostics

Connect Vibration and other sensors

Response Plan

Solution Architecture

2G/ 4G/ WiFi / Ethernet

IRD Transmitters
and Monitors
& Falcon IoT
Junction Box

Faclon I/O Sense
Diagnostic Software

Sensor Portfolio

Tri Axial
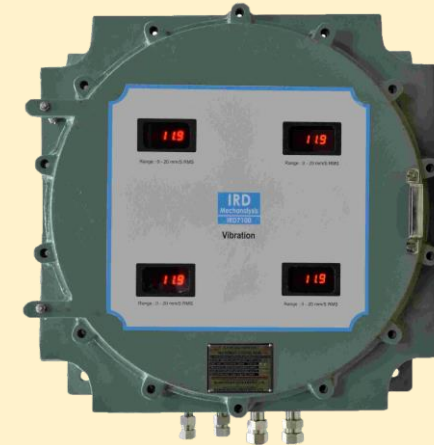
Mono Axial

Transmitters and Monitors Portfolio

IRD7100

API 670
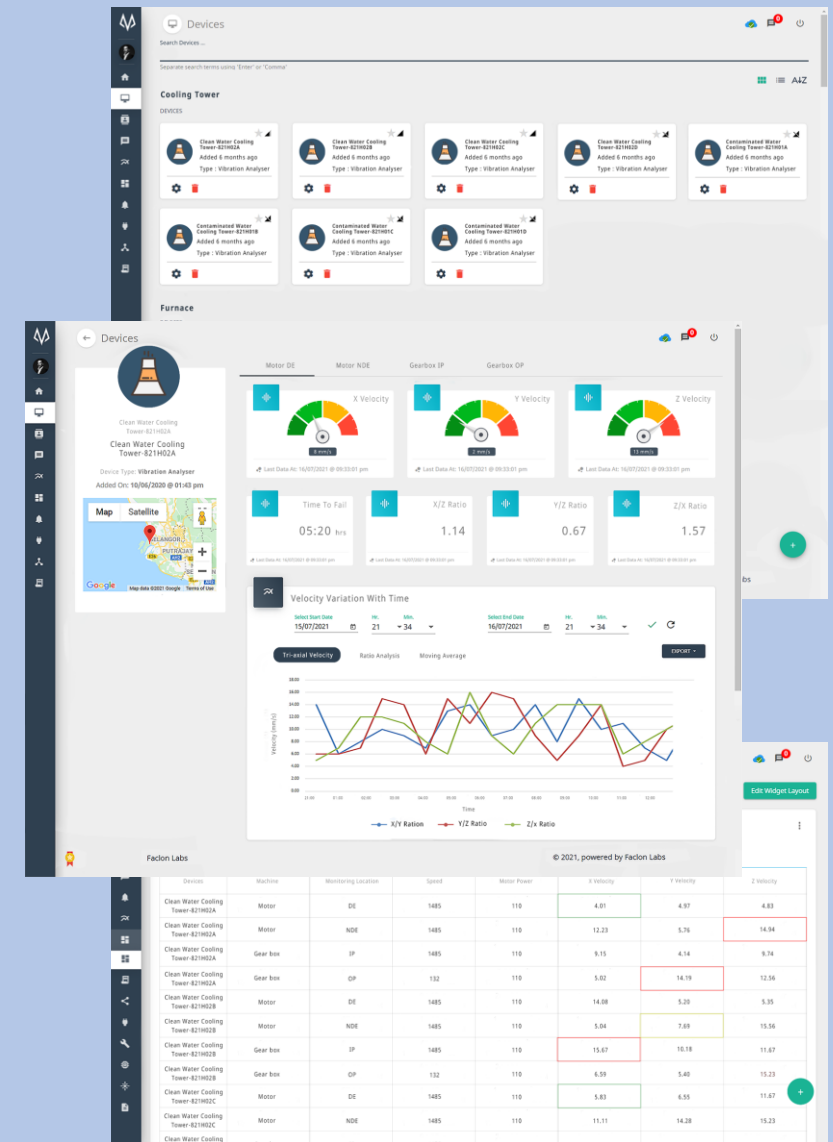
Ex Enclosures

IoT Junction Box

- Input - 2 / 4 / 6 / 8 / 12 sensors

- Connectivity: LoRaWAN/ 4G / 2G / Wifi / Ethernet

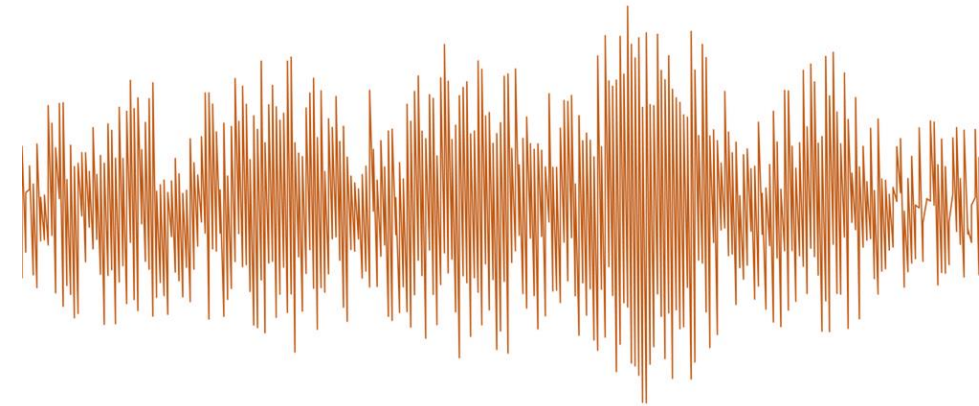- Data - Displacement, Velocity, FFT

Software Level 1 | Displacement / Velocity Diagnostics

- Display of vibration data and Trends for each point.

- Comparison with ISO standard and display of RED, YELLOW and GREEN dots on each measurement point.

- SMS / Email Alerts and Reports

- Comparison of vibration between two similar machines on the same screen

- Ratio of vibration between X, Y and Z directions

- Machinery diagnostics based on this ratio
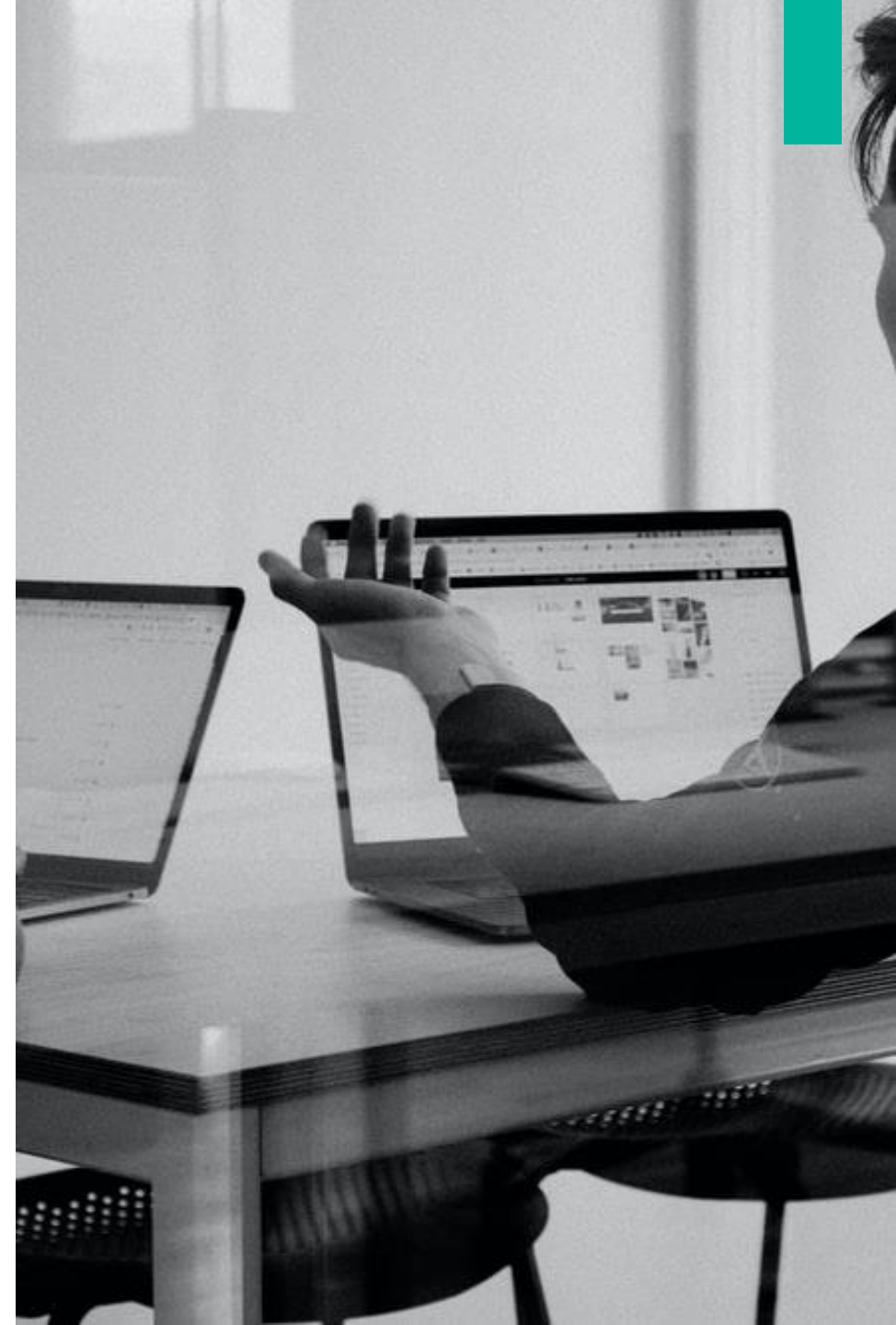
- Statistical analysis to predict 'TIME TO FAIL'

Software Level 2 | FFT

- Fast Fourier Transform of vibration data to identify different signatures leading to different types of failure

- Frequency band monitoring

- Diagnostics based on Vibration Analysis body of knowledge

- Incorporting 6 decades of knowledge base of IRD

Business **Case**

- Preventive maintenance
- Downtime Reduction
- Productivity Improvement
- Quality enhancement (machining industry)

Key Customers

Thank You

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