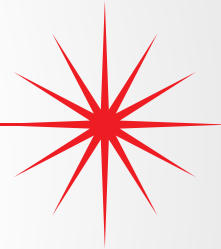


Solutions2.0

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Keynote

Essential Components of a World-Class Ultrasound Program

by Adrian Messer, Manager of US
Operations, UE Systems Inc.



Why Do CBM Programs Fail?

- **Lack of clear goals & expectations**
- **Little to no upper management support**
- **No training**
- **Lack of awareness on why the CBM technology was chosen/implemented**
- **No assistance or support from the vendor**
- **Continued reactive problems**
- **No root cause analysis done on problems from CBM findings**

What CBM Technology Are You Relying On?

A successful CBM program requires:

- **Training**
 - Should be included in the initial budget request/proposal
- **Support from your solution provider**
 - Vendor support is one of the most overlooked aspects of implementing any CBM technology
- **Continuing education**
 - CMRP/CMRT, CRL, webinars, online training, etc.

What CBM Technology Are You Relying On?

- **Reporting & Documentation**

- Document any CBM findings being sure to include any potential downtime avoidance into the documentation
- Document ROI from CBM technology use such as the cost avoidance associated with compressed air/compressed gas leak detection & repair

People

- Training
- Personnel
- % Buy In for CBM Program
- Continuing Education Efforts

Processes

- CBM Program
- % Corrective Work from CBM Finds
- Documentation
- % Failure Maintenance
- % CBM Recommendations Implemented
- Work Execution Process for CBM Corrective
- Mean Time to Implement
- Root Cause Analysis of CBM Findings

Tools

- Ultrasound Instruments
- Ultrasound Applications
- CBM Tools Used
- Technology Justification

Metrics

- ROI
- % of Plant Air Leak Survey Completed Annually
- % of Steam Trap Survey Completed Annually
- Cost Savings Reporting



People

- **In a world class ultrasound program, the ultrasound users are Level II and certified against a corporate ultrasound training standard**
- **Corporate expectation of the results & staffing ratios of CBM personnel coincide**
- **Individual training based on needs & application coaching followed by CMRP, CMRT, or CRL certification**

Processes

- **A formal ultrasound CBM program is in place with routes, data collection, documentation, reporting, and follow up. All linked through the corporate level knowledge sharing & standardization**
- **The % Corrective Work from CBM finds should be greater than 35%**
- **The findings from the ultrasound program should be generating corrective work**

Processes - continued

- **Documentation includes downtime avoidance & shared at a divisional or corporate level**
- **The target level for % Failure Maintenance should be less than 5%**
- **The CBM Corrective work should be planned, scheduled, and kitted with a 4 week rolling schedule**
- **If ultrasound is being used effectively, the findings should be generating planned & scheduled corrective work**

Processes - continued

- **At the corporate level, there is a Root Cause Analysis process in place that allows for the findings and solutions to be documented and shared at the corporate level**
- **Leverage the sharing of information generated by the CBM findings:**
 - Similar equipment (age and type)
 - Similar processes
 - Similar installations, designs that can be improved



Tools

- **In most facilities, ultrasound can be used for more than one application. Example, if someone is only using ultrasound for compressed air leak detection, the full potential of the technology is not being utilized**
- **In a World Class Ultrasound program, a digital ultrasound instrument with data storage and sound recording are used with extensive routes where data is analyzed, documented, and trended using a corporate standard**

Tools

- **Ultrasound should be used in conjunction with other CBM technologies (infrared & vibration)**
- **Applications should include:**
 - Compressed air/gas leak detection
 - Mechanical inspection routes
 - Ultrasound Assisted Bearing Lubrication
 - Electrical Inspection routes
 - Steam Trap testing (if applicable)
 - The use of the technology should be guided by a corporate level standard

Metrics

World Class Metrics:

- **A documented ROI of 16 to 1**
- **100% of the planned/scheduled ultrasound routes are completed and results documented**
- **Cost savings are reported and shared monthly**
- **A best in class target value for PM & PdM Compliance should be greater than 90%**

Reporting & Documentation

- **The results & best practices should be shared at the corporate level**
- **Ideally, the Plant Controller & Maintenance & Reliability Manager share realized savings throughout the organization**
- **Any problems found where a potential safety hazard was avoided should be shared with the EH&S Manager & shared throughout the organization**
- **Share Information & Communicate!**

Questions?

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Questions & Answers



Next Webinar

Date: Wednesday, June 14

Keynote

The Particulars of Particles in Fa (Fluid Analysis)

by Jack Poley, Managing General
Partner, Condition Monitoring
International



Educational Session

To Be Announced

We'd love to hear your feedback!
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for Joining Us!